



## 10847 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Cycle: 15, Proposal Category: GO

(Availability Mode: AVAILABLE)

### INVESTIGATORS

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### VISITS

Proposal 10847 (STScI Edit Number: 6, Created: Thursday, January 18, 2007 9:22:18 PM EST) - Overview

| <i>Visit</i> | <i>Targets used in Visit</i> | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 10           | (11) AU-MIC                  | NIC2                                | 1                  | 18-Jan-2007 21:18:03.0        | yes                           |
| 11           | (11) AU-MIC                  | NIC2                                | 1                  | 18-Jan-2007 21:18:15.0        | yes                           |
| 20           | (12) HD-32297                | NIC2                                | 1                  | 18-Jan-2007 21:18:25.0        | yes                           |
| 21           | (12) HD-32297                | NIC2                                | 1                  | 18-Jan-2007 21:18:38.0        | yes                           |
| 22           | (12) HD-32297                | NIC2                                | 1                  | 18-Jan-2007 21:18:47.0        | yes                           |
| 23           | (12) HD-32297                | NIC2                                | 1                  | 18-Jan-2007 21:18:56.0        | yes                           |
| 30           | (13) HR-4796                 | NIC2                                | 1                  | 18-Jan-2007 21:19:05.0        | yes                           |
| 31           | (13) HR-4796                 | NIC2                                | 1                  | 18-Jan-2007 21:19:14.0        | yes                           |
| 40           | (14) HD-181327               | NIC2                                | 1                  | 18-Jan-2007 21:19:23.0        | yes                           |
| 41           | (14) HD-181327               | NIC2                                | 1                  | 18-Jan-2007 21:19:31.0        | yes                           |
| 50           | (15) HD-107146               | NIC2                                | 1                  | 18-Jan-2007 21:19:42.0        | yes                           |
| 51           | (15) HD-107146               | NIC2                                | 1                  | 18-Jan-2007 21:19:50.0        | yes                           |
| 52           | (15) HD-107146               | NIC2                                | 1                  | 18-Jan-2007 21:19:59.0        | yes                           |
| 53           | (15) HD-107146               | NIC2                                | 1                  | 18-Jan-2007 21:20:08.0        | yes                           |
| 60           | (16) HD-61005                | NIC2                                | 1                  | 18-Jan-2007 21:20:17.0        | yes                           |
| 61           | (16) HD-61005                | NIC2                                | 1                  | 18-Jan-2007 21:20:28.0        | yes                           |
| 62           | (16) HD-61005                | NIC2                                | 1                  | 18-Jan-2007 21:20:37.0        | yes                           |
| 63           | (16) HD-61005                | NIC2                                | 1                  | 18-Jan-2007 21:20:45.0        | yes                           |
| 70           | (17) HD-21447-PSF            | NIC2                                | 1                  | 18-Jan-2007 21:20:54.0        | yes                           |
| 71           | (18) GJ-784-PSF              | NIC2                                | 1                  | 18-Jan-2007 21:21:03.0        | yes                           |
| 81           | (12) HD-32297                | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:09.0        | yes                           |
| 82           | (12) HD-32297                | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:16.0        | yes                           |

| <i>Visit</i> | <i>Targets used in Visit</i> | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 83           | (20) HD-18978-PSF            | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:21.0        | yes                           |
| 84           | (16) HD-61005                | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:25.0        | yes                           |
| 85           | (16) HD-61005                | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:30.0        | yes                           |
| 86           | (21) HD-117176-PSF           | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:35.0        | yes                           |
| 87           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:39.0        | yes                           |
| 88           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:44.0        | yes                           |
| 89           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:49.0        | yes                           |
| 90           | (22) HD-82943-PSF            | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:53.0        | yes                           |
| 91           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:56.0        | yes                           |
| 92           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:21:59.0        | yes                           |
| 93           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:22:01.0        | yes                           |
| 94           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:22:04.0        | yes                           |
| 95           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:22:07.0        | yes                           |
| 96           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:22:09.0        | yes                           |
| 97           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:22:12.0        | yes                           |
| 98           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:22:14.0        | yes                           |
| 99           | (15) HD-107146               | ACS/HRC                             | 1                  | 18-Jan-2007 21:22:17.0        | yes                           |

39 Total Orbits Used

### **ABSTRACT**

We propose to take full advantage of the recently commissioned coronagraphic polarimetry modes of ACS and NICMOS to obtain imaging polarimetry of circumstellar debris disks that were imaged previously by the HST coronagraphs, but without the polarizers. It is well established that

stars form in gas-rich protostellar disks, and that the planets of our solar system formed from a circum-solar disk. However, the connection between the circumstellar disks that we observe around other stars and the processes of planet formation is still very uncertain. Mid-IR spectral studies have suggested that disk grains are growing in the environments of young stellar objects during the putative planet-formation epoch. Furthermore, structures revealed in well resolved images of circumstellar disks suggest gravitational influences on the disks from co-orbital bodies of planetary mass. Unfortunately, existing imaging data provides only rudimentary information about the disk grains and their environments. Our proposed observations, which can be obtained only with HST, will enable us to quantitatively determine the sizes of the grains and optical depths as functions of their location within the disks (i.e., detailed tomography). Armed with these well-determined physical and geometrical systemic parameters, we will develop a set of self-consistent models of disk structures to investigate possible interactions between unseen planets and the disks from which they formed. Our results will also calibrate models of the thermal emission from these disks, that will in turn enable us to infer the properties of other debris disks that cannot be spatially resolved with current or planned instruments and telescopes.

#### **OBSERVING DESCRIPTION**

We propose to take full advantage of the recently commissioned coronagraphic polarimetry modes of ACS and NICMOS to obtain imaging polarimetry of circumstellar debris disks that were imaged previously by the HST coronagraphs, but without the polarizers. It is well established that stars form in gas-rich protostellar disks, and that the planets of our solar system formed from a circum-solar disk. However, the connection between the circumstellar disks that we observe around other stars and the processes of planet formation is still very uncertain. Mid-IR spectral studies have suggested that disk grains are growing in the environments of young stellar objects during the putative planet-formation epoch. Furthermore, structures revealed in well resolved images of circumstellar disks suggest gravitational influences on the disks from co-orbital bodies of planetary mass. Unfortunately, existing imaging data provides only rudimentary information about the disk grains and their environments. Our proposed observations, which can be obtained only with HST, will enable us to quantitatively determine the sizes of the grains and optical depths as functions of their location within the disks (i.e., detailed tomography). Armed with these well-determined physical and geometrical systemic parameters, we will develop a set of self-consistent models of disk structures to investigate possible interactions between unseen planets and the disks from which they formed. Our results will also calibrate models of the thermal emission from these disks, that will in turn enable us to infer the properties of other debris disks that cannot be spatially resolved with current or planned instruments and telescopes.

This program contains both NICMOS Camera 2 and ACS/HRC imaging polarimetry observations. Visits 01 - 71 are NICMOS only visits, and Visits 81-99 are ACS only visits. We describe those separately as their structure and scheduling requirements are different.

---NICMOS---

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We are observing 8 targets (6 science targets and two calibration targets) using NICMOS (camera 2) coronagraphic polarimetry. Three science targets are observed in two single-orbit visits, HD 181327, AU Mic, and HR 4796A). The three others (HD 107146, HD 32297, and HD 61005) are observed in two SETS of two single-orbit visits. For each target, the first visit of each visit pair carries one or more allowable absolute orientation ranges (listed in order of preference). The second visit in each visit pair is linked with an ORIENT FROM requirement to the first visit in each pair. We number the visit pairs for the science targets as (10,11),(20,21)... for the science targets. For targets with four visits we have visits similarly paired in numbers. The first digit of the visit number corresponds to a specific target. Our calibration targets (visits 70 and 71) are unconstrained in orientation.

The NICMOS observing strategy (definition of the Visit structures and exposures within) is very similar for all visit pairs, differing only in (a) Orientation requirements, (b) target acquisition filters and exposure times, and (c) multiaccum sample-sequences used for post-coronagraphic (direct) polarimetric imaging.

#### NICMOS VISIT STRUCTURE (EXPOSURES)

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Each visit begins with a coronagraphic target acquisition (ACQ) exposure (exp #1). All targets had been successfully acquired for coronagraphic observations previously (in either GO/10177 or GTO/7233). Our target co-ordinates are predicated on those prior observations, as are our exposure times for the ACQ mode exposures and are consistent with ICRS coordinates after applying proper motion corrections from the epochs of the earlier NICMOS observations to epoch 2000.0. Our ACQ exposure times are designed to reach an exposure depth of 77,000 electrons in the central pixel of the PSF for the filter employed. Acquisition filters differ for different targets to achieve this goal.

After target acquisition and the re-centering slew, we take three sets of (POL0, POL120, POL240) images, sequentially. Rather than repeating each polarizer three times then moving on to the next polarizer, we cycle through the POL filter sets in the same order three times. This strategy provides for some mitigation of the potential effects of image persistence decay and PSF instability during data reduction. We recognize that repetitively operating the filter wheel mechanism incurs a small amount of additional overhead, however, this is an acceptable trade given the possibilities for higher level uncorrectable instrumental systematics using the alternate method. In ALL cases, for ALL targets (including our calibration targets) we use STEP64/NSAMP=12 multiaccum sampling (256s integration time per multiaccum), EXCEPT in a few cases for the LAST STEP64 multiaccum in the series. All but the last are constructed as repeats (NUMEXP=##). The last is called out separately to allow adjustment of its number of NSAMP readouts to "fit the visibility period" after the entire visit is initially constructed. \*IF\* in implementation the actual visibility periods are shorter than APT is modeling them, our PC is free to adjust (downward) the NSAMP number on the last STEP64 in any visit as required.

Following the deep coronagraphic exposure we take three, "out of hole" dithered (with POS TARGS) POL240 SCAMRR/NSAMP=20 exposures (one at each dither position). We do this to enable determination, observationally, the flux density scaling of the underlying (unpolarized) component of the stellar PSF between our disk targets and unpolarized standard calibration targets in the bandpass of the POL\* filter set (the three POL\* filters have the same spectral passbands). These observations will be saturated in the central pixel of the stellar PSF, and flux density measures are made in the wings of the PSF.

#### VISIT LEVEL ORIENTATION SPECIFICATIONS

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Without regard to "schedulability", we describe the Orientation requirements for the science targets which would optimize the science return. We have used these criteria to define both the absolute and relative Orientation requirements for all visits. In some cases, the optimal orientations were found to be non-schedulable. In those cases we individually considered the possible trades and assigned SCHEDULABLE orientations (based upon the APT 15.2.2 Visit Planner). We provide multiple absolute orientation ranges for the first visit in each visit pair for all science targets. We comment on the possibilities for alternate differential (Orient From) requirements (which cannot be entered via APT 15.2.2) which may be implemented by our Program Coordinator if needed.

SCIENCE TARGETS (1-6): We are polarimetrically observing scattered light from inclined circumstellar disks about T-Tauri stars. All have previously been observed with broadband (F110W) NICMOS coronagraphy. The orientations, morphologies, and spatial extent are well established for all of the disks. Below we describe both the rationale for the given preferred absolute orientation ranges on the first visit of each visit-pair, and give the allowable relative (orient from) ranges on the second visit of each visit pair. In some cases the preferred (best) orientations are not actually achievable (as informed by APT) in 2GM.

"OPTIMUM" ABSOLUTE ORIENTATIONS (1st Visit in pairs):

The NICMOS coronagraphic obscuration is asymmetrically placed in the NIC2 aperture, near one "corner" of the field of view. Specifically, the coronagraphic obscuration is at  $(X,Y)[SIAF] = (5.5", 3.3")$  from the  $(-X,+Y)$  edge of the FOV. If there were no field dependent coronagraphic polarimetric artifacts, for the first visit, we would ideally orient the disk MAJOR axis (where the disk is visible to a larger angular extent) along the image X[SIAF] axis. This would place the disk minor axis along the image Y axis, with the star 3.3" from the edge of the detector in the Y direction. Such an orientation provides imaging of the four symmetric sectors of the disk with minimum interference from the HST+NICMOS diffraction spikes.

The preferred orientation provides the optimum information on: (a) the dark disk mid-plane between the brighter upper and lower scattering lobes, in the direction of forward scattering along the disk minor axis, (b) the back-scattered light from the upper lobe of the disk, and (c) the disk ansae located on and near the major axes. Understanding (a) is critical to investigating the (possible) segregation of grain populations with scale height above (and below) the mid-plane. Taken together, (a-c) enable us to study the grain polarization and scattering efficiencies with illumination angle, which constrains their physical properties. Because the disk above (and below) the mid-plane are brighter on the minor axis (toward the direction of their revealed mid-planes), the disk there is seen with higher SNR, and to a larger radial extent when compared to the opposite direction. Hence, we would preferentially orient the disks with the observable mid-plane azimuthally straddling the Y[SIAF] axis. The opposite (180 degree different) orientation should also be "acceptable", given the angular extent of these disks as imaged earlier with shorter wavelength broadband coronagraphy - but in this program, we are taking significantly deeper exposures than our earlier observations, and therefore observing with the opposite orientation risks truncating part of disk in the forward scattering direction by the edge of array.

Given that the ideal orientations may not be achievable, we have determined that the disks can be oriented (in the first of each visit pairs) with the MINOR axis on the image horizontal (X axis), although this is much less preferred. In that case, the outer portion ( $r > 3.3''$ ) of the disk major axis (which would be along the Y axis, and therefore closer to the edge of the FOV) would be truncated by the array edge. With the minor axis oriented along the X-axis, we potentially risk losing information at larger radii, which may impact our ability to analyze any asymmetries in the azimuthal direction at the disk ansae; however, there is a low expectation for observing such asymmetries given the earlier broadband imaging.

#### ARTIFACT AVOIDANCE (1st Visit in pairs):

The above is for the ideal case, however, our NICMOS coronagraphic polarization calibration program revealed the existence of an instrumental polarization artifact which appears  $\sim 3.2''$  from the occulted target at an SIAF position angle of  $\sim 177$  deg CCW from image +Y axis (i.e., nearly "below" the obscuration, slightly toward the image -X direction). The polarization artifact has an angular extent  $\sim 11$  deg. Therefore, for the first visits, we specify orientations which avoid placing the both the major and minor axes directly through this artifact. To account for this artifact, we orient the disk axes so they are "tilted" w.r.t. the SIAF axes, at a minimum of 8 deg CCW in SIAF. We prefer that the incremental rotation to compensate for the polarization artifact be as small as possible (hence we have provided for rotational parity), but also recognize the difficulties in finding suitable scheduling windows (which APT does not model with high fidelity), and are allowing for a tolerance in the absolute orientation up to 20 degrees. Thus, the absolute orientations provided allow for a rotation of the disk axes from 8 to 28 degrees CCW from the SIAF axes.

#### DERIVED ORIENTATION RANGE REQUIREMENTS:

For the first visit in each visit pair we thus provide four orientation ranges which typically differing by 90 degrees (although all four are not always achievable due to scheduling constraints), but note that not all have equal preference. We provide all four recognizing in recognition of the difficulties often encountered in observation scheduling. The orientations are given in order of preference in each Visit definition, should more than one scheduling window be found.

SPECIFICALLY, in the Visits, given:

PA\_MINOR\_FORWARD = Position angle of the minor axis bifurcating the disk mid-plane (forward scattering direction)

AND Absolute Orientation Tolerance: 0 to 20 degrees from Preferential.

Then, the orientation ranges (in SIAF) in order of preference, are as follows (unless otherwise stated in Visit level comments):

SIAF\_RANGE (CCW from SIAF +Y axis) to place PA\_MINOR\_FORWARD:

- (1) 188 to 208 deg CCW
- (2,3) 98 to 118 deg \*OR\* 278 to 298 deg
- (4) 8 to 28

Note: SIAF orientation ranges (2) and (3) have equal preferential weight.

We then compute, for each target, given its PA\_MINOR\_FORWARD angle as measured from our earlier epoch NICMOS images:

$$\text{ABSOLUTE\_ORIENT\_RANGE} = 360 \text{ mod}(\text{PA\_MINOR\_FORWARD} + \text{SIAF\_RANGE} + \text{APER\_REF})$$

where APER\_REF == Aperture Reference angle (NIC2) = 224.5 degrees

RELATIVE ORIENTATIONS (2nd Visit of the visit pairs):

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Because we are taking polarimetric observations, the second visit of each visit pair should ideally: (a) have the target "rotated" into a different quadrant of the array, i.e., an orientation differing in absolute value by at least 90 degrees w.r.t to the first visit, and (b) not be near an antipodal angle (i.e., not too close to 180 degrees apart). Additional preferences are to (c) maximize the area of the disk to be observed without corruption (degradation) by the HST diffraction spikes when combining the two visits and (d) sample in the 2nd visit the area which might be degraded by the artifact discussed above.

For the ideal case, the second visit would be differentially oriented 135 deg or 225 deg RELATIVE TO THE FIRST VISIT (either would equally acceptable) to maximize the azimuthal area sampled using both visits. However, given the polarimetric artifact, doing so would rotate part of the region of the disk affected by the artifact in the 1st visit onto a diffraction spike in the 2nd visit. To avoid this, the ORIENT FROM angle in the first case should not exceed 125 deg. In order to assure sufficient azimuthal sampling (such that at the full disk is unaffected by diffraction spikes in at least one of the two visits) the ORIENT FROM should not be less than 120 (90 + 30) degrees. This puts a fairly restrictive ORIENT FROM range of 120 to 125 on the second visit. The second possible orient range is correspondingly 210 to 215 deg. Either ORIENT FROM is equally acceptable. Other constraints appear when scheduling has proved impossible.

#### VISIT PAIR ORIENT/ORIENT-FROM CONSTRAINTS:

Whenever possible, we have provided (up to) FOUR possible ORIENTATION RANGES for each target (differing by 90 degrees, each with a tolerance of 0 to 20 degrees), each constrained by TWO linked ORIENT FROM requirements. Thus, there are up to EIGHT possible combinations of orientations which would be acceptable.

We note that the APT front-end S/W, however only allows for a single Orient From specification on a linked visit. Hence, while we supply only one input as a scheduling requirement, our proposal program coordinator may freely select between a (120 to 125) or (210 to 215) degree Orient From requirement.

(As a final note, we have found that APT expects input of ORIENT FROM angles only in the range of -180 to + 180 degrees, so the specification of the 210 to 215 degree range is input as -150 to -145 deg.)

#### PSF/Polarimetric Calibration Targets

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Our PSF/Polarimetric calibration targets carry NO absolute orientation requirements on their first visits, but DO carry the same allowable ORIENT FROM requirements on their second visits as the Science targets.

#### TIMING LINKAGES

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There are *\*NO\** timing linkages between any of the visits. However, *\*IF\** possible, i.e., if multiple scheduling windows exist, we would REQUEST the execution of at least one of our NICMOS PSF/polarimetric calibration target visits as early in Cycle 15 as possible. This will allow us to evaluate the effectiveness of our calibration strategy when the first science data imagery are acquired, and if necessary revise our strategy accordingly.

#### OTHER NOTES

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The following pairs of visits carry requirements to be done at the same orientation:

(20,22), (21, 24) (50,52) (51, 53) (60, 62) (61, 63)

We place no explicit timing linkages in these "pairs". However, if possible we would request that the visits within these pairs be done "back to back" in sequential orbits. We note this on the Visit level comments. We note we asked similarly for other the differential roll visit pairs [e.g., (10,11) (20,21)] but found that not schedulable in all cases. IF it turns out this IS actually schedulable, the IDEAL case would be to have 4-orbit sequential scheduling as follows for the 4-orbit targets. We suspect this is not possible, but the pairings (20,22) (21,24) etc. should be.

---ACS---

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1. We are investigating the POSSIBILITY of replacing one of our unpolarized standard stars with a calibrator of larger H-K color index. Identifying such beasts, particularly of sufficient brightness, has thus far yielded no suitable candidates. We wish to retain that "option" of substituting one of our calibration targets, until such an option would be precluded by intruding into the development of an integrated scheduling plan. As this is a calibration observation (as identified in our Phase I proposal to the TAC) we believe such a substitution may be authorized by the programs Contact

Scientist (or Program Coordinator) without a formal request to the TTRB.

2. Our exposure sequences in each visibility period (visit) are wrapped in a SEQ-NON INT requirement. As implied by this requirement: (a) the order of execution should not be permuted, as the ordering of exposures has been designed to permit the identification, and mitigation, of image persistence, (b) the Visit should not be split into two visibility periods -- all exposures MUST be obtained under a single guide star and coronagraphic target acquisition within a single unocculted visibility period.

3. IF possible we request SAA un-impacted orbits.

### **REAL TIME JUSTIFICATION**

We have NO realtime requirements.

### **CALIBRATION JUSTIFICATION**

Two of our targets (4 Visits, #60,61 and 70,71) are designed to obtain high SNR polarimetric observations of unpolarized standard stars. The need (justification) for this was addressed in our Phase 1 proposal, and 4 orbits were granted to obtain those calibration data. These observations are taken using only AVAILABLE instrument and spacecraft capabilities, and need NO special resources from STScI to obtain or provide the data. I.e., the observations are conducted in a manner identical to those which would be obtained for science targets.

### **ADDITIONAL COMMENTS**

We indicate TWO contact co-I's.

Questions regarding NICMOS visits should be directed to Glenn Schneider.

Question regarding ACS visits should be directed to Paul Kalas.

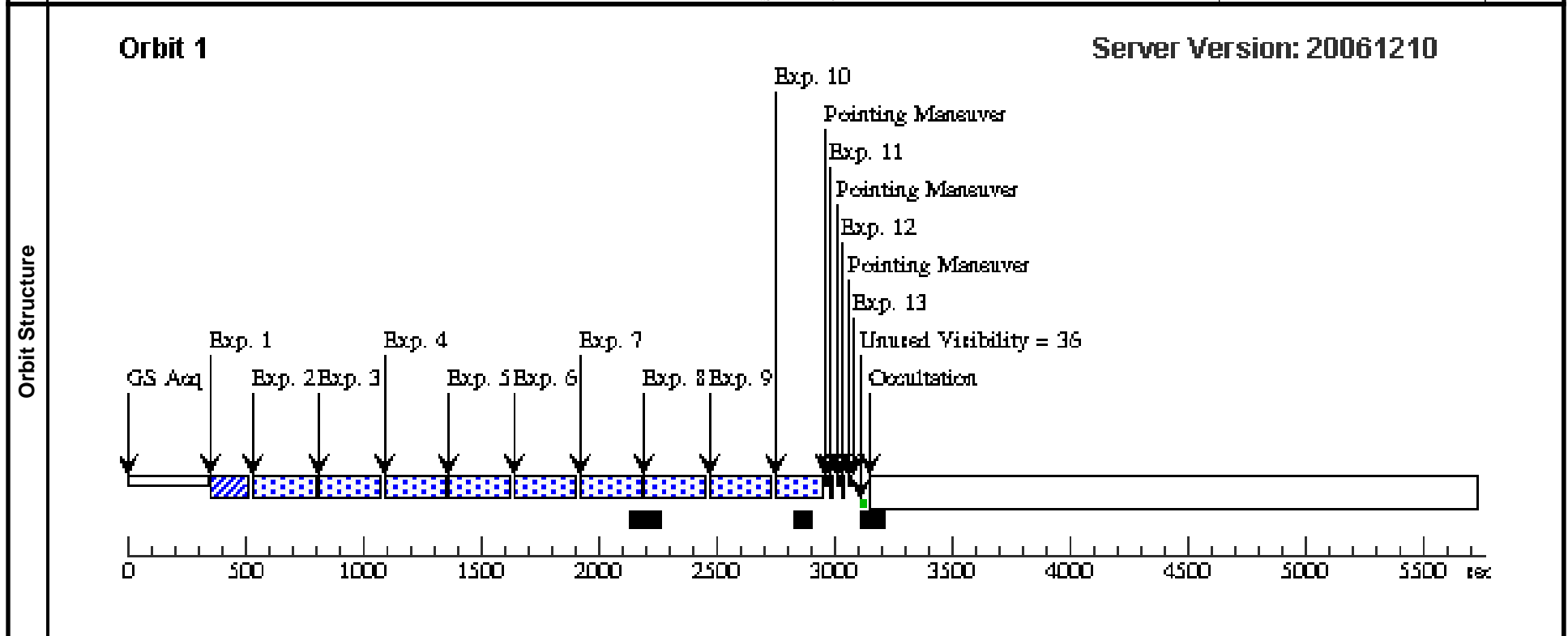
Proposal 10847 - Visit 10 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:19 GMT 2007

| Visit     | <b>Proposal 10847, Visit 10, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: ORIENT 269.5D TO 289.5 D; ORIENT 179.5D TO 199.5 D; ORIENT 359.5D TO 19.5 D; ORIENT 89.5D TO 109.5 D<br>Comments: AU MIC. First of two visits.<br>FIELD ORIENTATION REQUIREMENTS.<br>PA Disk minor axis in forward direction = 217 Degrees.<br>ORIENT RANGES IN ORDER OF PREFERENCE: (269.5 deg to 289.5 deg), (179.5 deg to 199.5 deg), (359.5 deg to 19.5 deg), (89.5 deg to 109.5 deg) |                                 |   |  |   |                       |                              |                       |                         |       |
|-----------|---|---------------------------------|---|--|---|-----------------------|------------------------------|-----------------------|-------------------------|-------|
|           | Fixed Targets   | #                               | Name  | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |                       |                         |       |
|           | (11)  | AU-MIC<br>Alt Name1: HD197481   | RA: 20 45 9.5318 (311.2897158d)<br>Dec: -31 20 27.24 (-31.34090d)<br>Equinox: J2000 | Proper Motion RA: 0.021884s/yr<br>Proper Motion Dec: -0.36009"/yr<br>Parallax: 0.10059"<br>Epoch of Position: 2000.0 | V=8.61<br>J = 5.436,<br>H = 4.831,<br>K = 4.529 | Reference Frame: ICRS |                              |                       |                         |       |
|           | Comments: NIC2/POL* saturation in 0.04s in central PSF pixel  |                                 |   |  |   |                       |                              |                       |                         |       |
| Exposures | #   | Label                           | Target  | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|           | 1   | (11) AU-MIC                     | NIC2, ACQ, NIC2-ACQ   | F187N  |   |                       | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.33 Secs<br>[==>]      | [1]   |
|           | 2   | (11) AU-MIC                     | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 3   | (11) AU-MIC                     | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 4   | (11) AU-MIC                     | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL240L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 5   | (11) AU-MIC                     | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 6   | (11) AU-MIC                     | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 7   | (11) AU-MIC                     | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL240L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 8   | (11) AU-MIC                     | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 9         | (11) AU-MIC   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12   |   |                       | Sequence 1-13 Non-Int        | [==>]                 | [1]                     |       |

Proposal 10847 - Visit 10 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| #  | Label       | Target                          | Config,Mode,Aperture | Spectral Els.                    | Opt. Params.  | Special Reqs.         | Groups | Exp. Time/[Actual Dur.] | Orbit |
|--|-------------|---------------------------------|----------------------|----------------------------------|---------------|-----------------------|--------|-------------------------|-------|
| 10   | (11) AU-MIC | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |               | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| 11   | (11) AU-MIC | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0  | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |             |                                 |                      |                                  |               |                       |        |                         |       |
| 12   | (11) AU-MIC | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0  | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| 13   | (11) AU-MIC | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1 | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |



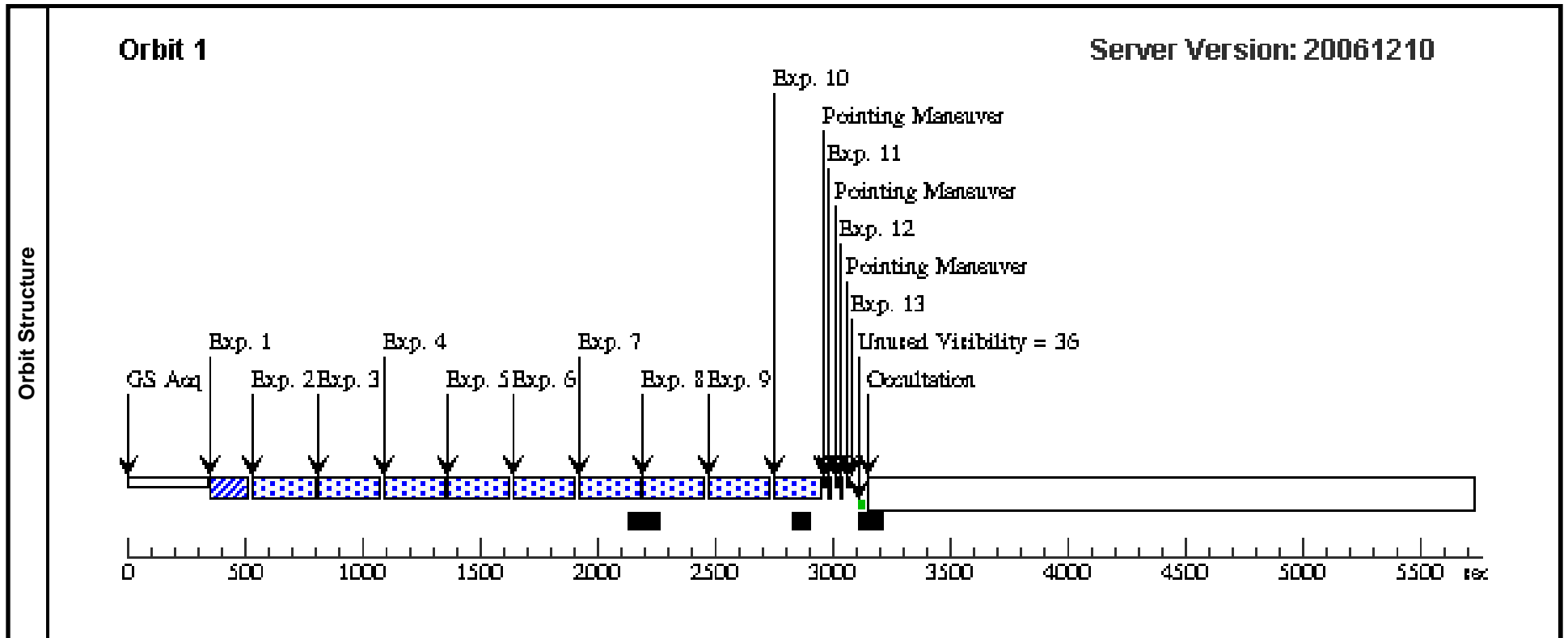
Proposal 10847 - Visit 11 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|   |  |                               |   |  |   |                                  |                              |                       |                                |              |
|---|--|-------------------------------|---|--|---|----------------------------------|------------------------------|-----------------------|--------------------------------|--------------|
| <b>Visit</b>  | <b>Proposal 10847, Visit 11, scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: ORIENT 120.0D TO 125.0D FROM 10<br><i>Comments: AU MIC. Second of two visits.</i><br><i>We specify relative orient of +120 to 125 deg from Visit 20, which APT shows as schedulable.</i><br><i>A relative orient of -150 deg to -145 deg from Visit 20 is also acceptable.</i><br><i>We PREFER a GROUP 10,11 WITHIN 2 ORBITS timing linkage, but APT indicates no schedulability with either ORIENT FROM ranges, so we remove it.</i> |                               |   |  |   |                                  |                              |                       |                                |              |
|   | <b>Fixed Targets</b>   | <b>#</b>                      | <b>Name</b>   | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b>                 | <b>Fluxes</b>                    | <b>Miscellaneous</b>         |                       |                                |              |
| (11)  |  | AU-MIC<br>Alt Name1: HD197481 | RA: 20 45 9.5318 (311.2897158d)<br>Dec: -31 20 27.24 (-31.34090d)<br>Equinox: J2000 | Proper Motion RA: 0.021884s/yr<br>Proper Motion Dec: -0.36009"/yr<br>Parallax: 0.10059"<br>Epoch of Position: 2000.0 | V=8.61<br>J = 5.436,<br>H = 4.831,<br>K = 4.529 | Reference Frame: ICRS            |                              |                       |                                |              |
| <i>Comments: NIC2/POL* saturation in 0.04s in central PSF pixel</i> |  |                               |   |  |   |                                  |                              |                       |                                |              |
| <b>Exposures</b>  | <b>#</b>   | <b>Label</b>                  | <b>Target</b>   | <b>Config,Mode,Aperture</b>  | <b>Spectral Els.</b>                            | <b>Opt. Params.</b>              | <b>Special Reqs.</b>         | <b>Groups</b>         | <b>Exp. Time/[Actual Dur.]</b> | <b>Orbit</b> |
|   | 1  | (11) AU-MIC                   | NIC2, ACQ, NIC2-ACQ   | F187N  |   |                                  | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.33 Secs<br>[==>]             | [1]          |
|   | 2  | (11) AU-MIC                   | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL0L  |   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 3  | (11) AU-MIC                   | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL120L  |   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 4  | (11) AU-MIC                   | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL240L  |   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 5  | (11) AU-MIC                   | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL0L  |   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 6  | (11) AU-MIC                   | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL120L  |   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 7  | (11) AU-MIC                   | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL240L  |   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 8  | (11) AU-MIC                   | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL0L  |   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 9  | (11) AU-MIC                   | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL120L  |   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |

Proposal 10847 - Visit 11 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| Exposures (continued)  | #  | Label                           | Target                          | Config,Mode,Aperture             | Spectral Els.                    | Opt. Params.              | Special Reqs.             | Groups | Exp. Time/[Actual Dur.] | Orbit |  |
|--|--|---------------------------------|---------------------------------|----------------------------------|----------------------------------|---------------------------|---------------------------|--------|-------------------------|-------|--|
|  | 10   | (11) AU-MIC                     | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |                           | Sequence 1-13 Non-I<br>nt | [==>]  | [1]                     |       |  |
|  | 11   | (11) AU-MIC                     | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0              | Sequence 1-13 Non-I<br>nt | [==>]  | [1]                     |       |  |
|  | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                                 |                                 |                                  |                                  |                           |                           |        |                         |       |  |
|  | 12   | (11) AU-MIC                     | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0              | Sequence 1-13 Non-I<br>nt | [==>]  | [1]                     |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |                                 |                                 |                                  |                                  |                           |                           |        |                         |       |  |
| 13   | (11) AU-MIC  | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1                    | Sequence 1-13 Non-I<br>nt | [==>]                     | [1]    |                         |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |                                 |                                 |                                  |                                  |                           |                           |        |                         |       |  |



Proposal 10847 - Visit 20 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|   |   |               |   |   |   |                       |                          |                       |                                |              |
|---|---|---------------|---|---|---|-----------------------|--------------------------|-----------------------|--------------------------------|--------------|
| <b>Visit</b>  | <b>Proposal 10847, Visit 20, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: PCS MODE FINE; ORIENT 190.1D TO 210.1 D; ORIENT 100.1D TO 120.1 D; ORIENT 280.1D TO 300.1 D; ORIENT 10.1D TO 30.1 D<br><i>Comments: HD 32297. First of two visits.</i><br><b>FIELD ORIENTATION REQUIREMENTS.</b><br>PA Disk minor axis in forward direction = 137.6 Degrees.<br><b>ORIENT RANGES IN ORDER OF PREFERENCE: (190.1 deg to 210.1 deg), (100.1 deg to 120.1 deg), (280.1 deg to 300.1 deg), (10.1 deg to 30.1 deg)</b> |               |   |   |   |                       |                          |                       |                                |              |
|   |   |               |   |   |   |                       |                          |                       |                                |              |
| <b>Fixed Targets</b>  | <b>#</b>  | <b>Name</b>   | <b>Target Coordinates</b>   | <b>Targ. Coord. Corrections</b>   | <b>Fluxes</b>                                   | <b>Miscellaneous</b>  |                          |                       |                                |              |
|   | (12)  | HD-32297      | RA: 05 02 27.4366 (75.6143192d)<br>Dec: +07 27 39.68 (7.46102d)<br>Equinox: J2000 | Proper Motion RA: 0.00045s/yr<br>Proper Motion Dec: -0.02332"/yr<br>Parallax: 0.00892"<br>Epoch of Position: 2000.0 | V=8.13<br>J = 7.687,<br>H = 7.624,<br>K = 7.594 | Reference Frame: ICRS |                          |                       |                                |              |
| <i>Comments: NIC2/POL* saturation in 0.51s in central PSF pixel</i> |   |               |   |   |   |                       |                          |                       |                                |              |
| <b>Exposures</b>  | <b>#</b>  | <b>Label</b>  | <b>Target</b>   | <b>Config,Mode,Aperture</b>   | <b>Spectral Els.</b>                            | <b>Opt. Params.</b>   | <b>Special Reqs.</b>     | <b>Groups</b>         | <b>Exp. Time/[Actual Dur.]</b> | <b>Orbit</b> |
|   | 1   | (12) HD-32297 | NIC2, ACQ, NIC2-ACQ   | F165M   |   |                       | GS ACQ SCENARIO BASE1TNS | Sequence 1-13 Non-Int | 0.305 Secs<br>[==>]            | [1]          |
|   | 2   | (12) HD-32297 | NIC2, MULTIACCUM, NIC2-CORON  | POL0L   | SAMP-SEQ=STEP64;<br>NSAMP=12                    |                       |                          | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 3   | (12) HD-32297 | NIC2, MULTIACCUM, NIC2-CORON  | POL120L   | SAMP-SEQ=STEP64;<br>NSAMP=12                    |                       |                          | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 4   | (12) HD-32297 | NIC2, MULTIACCUM, NIC2-CORON  | POL240L   | SAMP-SEQ=STEP64;<br>NSAMP=12                    |                       |                          | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 5   | (12) HD-32297 | NIC2, MULTIACCUM, NIC2-CORON  | POL0L   | SAMP-SEQ=STEP64;<br>NSAMP=12                    |                       |                          | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 6   | (12) HD-32297 | NIC2, MULTIACCUM, NIC2-CORON  | POL120L   | SAMP-SEQ=STEP64;<br>NSAMP=12                    |                       |                          | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 7   | (12) HD-32297 | NIC2, MULTIACCUM, NIC2-CORON  | POL240L   | SAMP-SEQ=STEP64;<br>NSAMP=12                    |                       |                          | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 8   | (12) HD-32297 | NIC2, MULTIACCUM, NIC2-CORON  | POL0L   | SAMP-SEQ=STEP64;<br>NSAMP=12                    |                       |                          | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 9   | (12) HD-32297 | NIC2, MULTIACCUM, NIC2-CORON  | POL120L   | SAMP-SEQ=STEP64;<br>NSAMP=12                    |                       |                          | Sequence 1-13 Non-Int | [==>]                          | [1]          |

Proposal 10847 - Visit 20 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| Exposures (continued)  | #  | Label         | Target                          | Config,Mode,Aperture            | Spectral Els.                    | Opt. Params.                     | Special Reqs.             | Groups                    | Exp. Time/[Actual Dur.] | Orbit |  |
|--|--|---------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|---------------------------|---------------------------|-------------------------|-------|--|
|  | 10   | (12) HD-32297 | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |                           | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |  |
|  | 11   | (12) HD-32297 | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |  |
|  | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |               |                                 |                                 |                                  |                                  |                           |                           |                         |       |  |
|  | 12   | (12) HD-32297 | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |               |                                 |                                 |                                  |                                  |                           |                           |                         |       |  |
| 13   | (12) HD-32297  | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,1                     | Sequence 1-13 Non-I<br>nt | [==>]                     | [1]                     |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |               |                                 |                                 |                                  |                                  |                           |                           |                         |       |  |



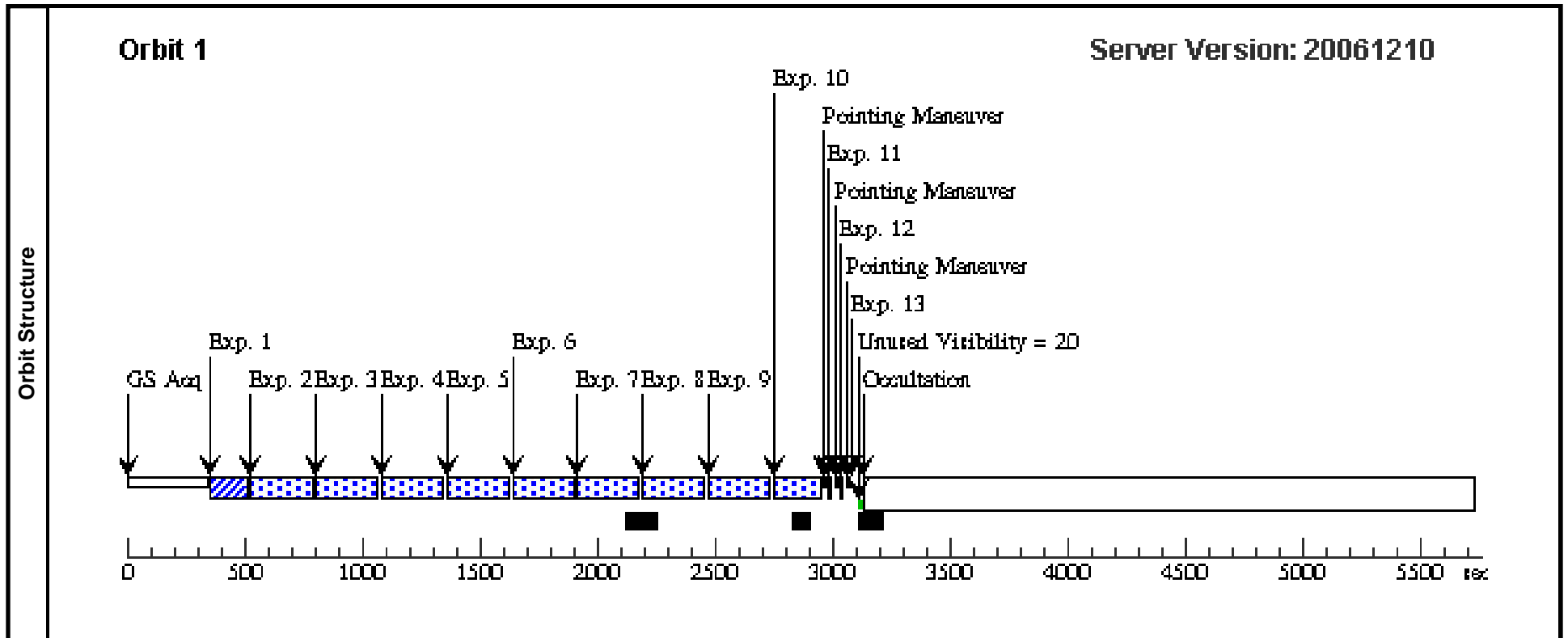
Proposal 10847 - Visit 21 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|  |  |               |   |   |   |                       |                              |                       |                                |              |
|--|--|---------------|---|---|---|-----------------------|------------------------------|-----------------------|--------------------------------|--------------|
| <b>Visit</b>   | <b>Proposal 10847, Visit 21, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: PCS MODE FINE; ORIENT 120.0D TO 125.0D FROM 20<br>Comments: HD 32297. Second of two visits.<br>We specify relative orient of +120 to 125 deg from Visit 20, which APT shows as schedulable.<br>A relative orient of -150 deg to -145 deg from Visit 20 is also acceptable.<br>We PREFER a GROUP 20,21 WITHIN 2 ORBITS timing linkage, but APT indicates no schedulability with either Orient FROM ranges, so we remove it. |               |   |   |   |                       |                              |                       |                                |              |
|  |  |               |   |   |   |                       |                              |                       |                                |              |
| <b>Fixed Targets</b>   | <b>#</b>   | <b>Name</b>   | <b>Target Coordinates</b>   | <b>Targ. Coord. Corrections</b>   | <b>Fluxes</b>                                   | <b>Miscellaneous</b>  |                              |                       |                                |              |
|  | (12)   | HD-32297      | RA: 05 02 27.4366 (75.6143192d)<br>Dec: +07 27 39.68 (7.46102d)<br>Equinox: J2000 | Proper Motion RA: 0.00045s/yr<br>Proper Motion Dec: -0.02332"/yr<br>Parallax: 0.00892"<br>Epoch of Position: 2000.0 | V=8.13<br>J = 7.687,<br>H = 7.624,<br>K = 7.594 | Reference Frame: ICRS |                              |                       |                                |              |
| Comments: NIC2/POL* saturation in 0.51s in central PSF pixel |  |               |   |   |   |                       |                              |                       |                                |              |
| <b>Exposures</b>   | <b>#</b>   | <b>Label</b>  | <b>Target</b>   | <b>Config,Mode,Aperture</b>   | <b>Spectral Els.</b>                            | <b>Opt. Params.</b>   | <b>Special Reqs.</b>         | <b>Groups</b>         | <b>Exp. Time/[Actual Dur.]</b> | <b>Orbit</b> |
|  | 1  | (12) HD-32297 | NIC2, ACQ, NIC2-ACQ   | F165M   |   |                       | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.305 Secs<br>[==>]            | [1]          |
|  | 2  | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|  | 3  | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|  | 4  | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|  | 5  | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|  | 6  | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|  | 7  | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|  | 8  | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|  | 9  | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                       |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |

Proposal 10847 - Visit 21 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| Exposures (continued)  | #   | Label         | Target                          | Config,Mode,Aperture            | Spectral Els.                    | Opt. Params.                     | Special Reqs.             | Groups                    | Exp. Time/[Actual Dur.] | Orbit |  |
|--|---|---------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|---------------------------|---------------------------|-------------------------|-------|--|
|  | 10  | (12) HD-32297 | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |                           | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |  |
|  | 11  | (12) HD-32297 | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |  |
|  | <i>Comments: Exp Time - 48s, Repeat twice (total integration time = 96s).</i> |               |                                 |                                 |                                  |                                  |                           |                           |                         |       |  |
|  | 12  | (12) HD-32297 | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |   |               |                                 |                                 |                                  |                                  |                           |                           |                         |       |  |
| 13   | (12) HD-32297   | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1                    | Sequence 1-13 Non-I<br>nt | [==>]                     | [1]                     |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |   |               |                                 |                                 |                                  |                                  |                           |                           |                         |       |  |



Proposal 10847 - Visit 22 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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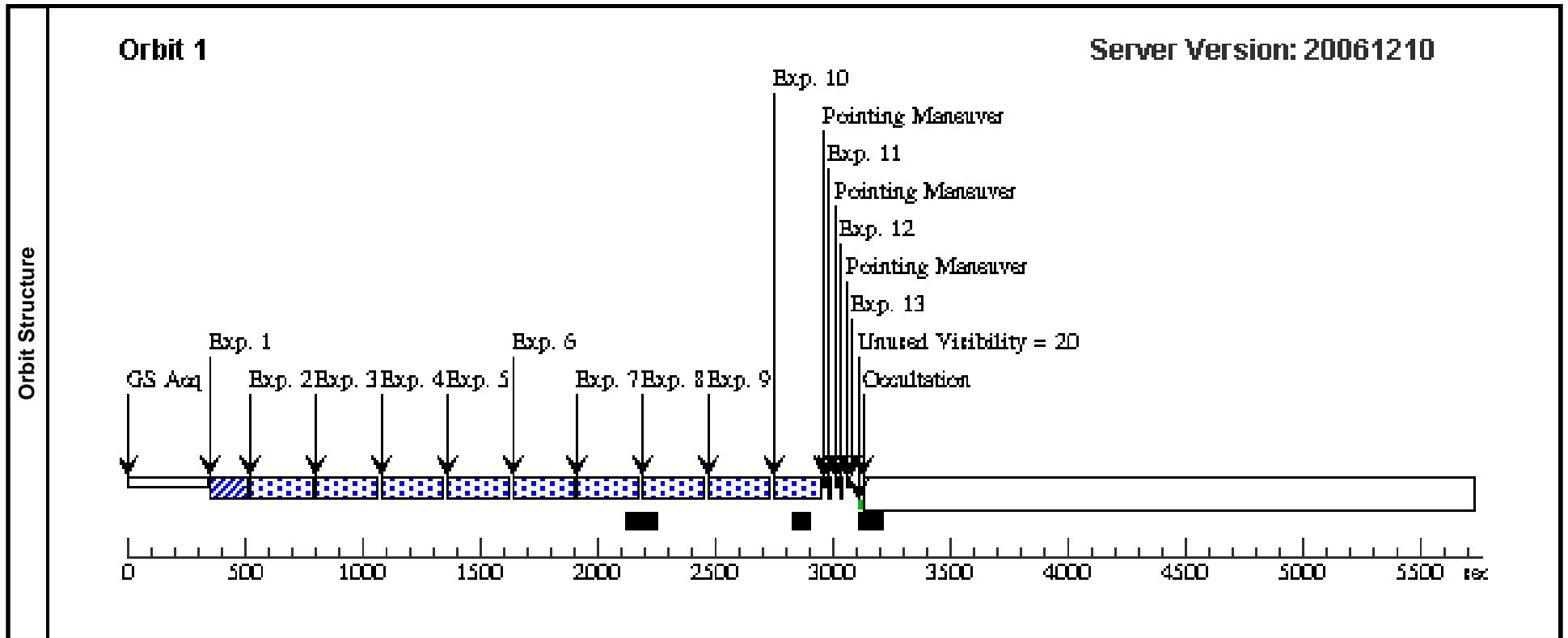
|              |  |  |  |  |  |
|--------------|--|--|--|--|--|
| <b>Visit</b> | <b>Proposal 10847, Visit 22, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: PCS MODE FINE; SAME ORIENT AS 20<br><i>Comments: HD 32297. First of two visits in the second set of observations.</i><br><b>FIELD ORIENTATION REQUIREMENTS.</b><br>PA Disk minor axis in forward direction = 137.6 Degrees.<br>ORIENT RANGES IN ORDER OF PREFERENCE: (190.1 deg to 210.1 deg), (100.1 deg to 120.1 deg), (280.1 deg to 300.1 deg), (10.1 deg to 30.1 deg)<br>DO AT THE SAME ORIENTATION AS VISIT 20<br>*IF* POSSIBLE SCHEDULE VISIT 20 AND 22 IN SEQUENTIAL ORBITS. This is not a requirement, but please do so if possible. |  |  |  |  |
|              |  |  |  |  |  |

|   |          |             |   |   |   |                       |
|---|----------|-------------|---|---|---|-----------------------|
| <b>Fixed Targets</b>  | <b>#</b> | <b>Name</b> | <b>Target Coordinates</b>   | <b>Targ. Coord. Corrections</b>   | <b>Fluxes</b>                                   | <b>Miscellaneous</b>  |
|   | (12)     | HD-32297    | RA: 05 02 27.4366 (75.6143192d)<br>Dec: +07 27 39.68 (7.46102d)<br>Equinox: J2000 | Proper Motion RA: 0.00045s/yr<br>Proper Motion Dec: -0.02332"/yr<br>Parallax: 0.00892"<br>Epoch of Position: 2000.0 | V=8.13<br>J = 7.687,<br>H = 7.624,<br>K = 7.594 | Reference Frame: ICRS |
| <i>Comments: NIC2/POL* saturation in 0.51s in central PSF pixel</i> |          |             |   |   |   |                       |

| <b>Exposures</b> | # | Label | Target        | Config,Mode,Aperture            | Spectral Els. | Opt. Params.                     | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|------------------|---|-------|---------------|---------------------------------|---------------|----------------------------------|------------------------------|-----------------------|-------------------------|-------|
|                  | 1 |       | (12) HD-32297 | NIC2, ACQ, NIC2-ACQ             | F165M         |                                  | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.305 Secs<br>[==>]     | [1]   |
|                  | 2 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 3 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 4 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 5 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 6 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 7 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 8 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |

Proposal 10847 - Visit 22 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| Exposures (continued)  | #  | Label         | Target                          | Config,Mode,Aperture            | Spectral Els.                    | Opt. Params.                     | Special Reqs.             | Groups                    | Exp. Time/[Actual Dur.] | Orbit |  |
|--|--|---------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|---------------------------|---------------------------|-------------------------|-------|--|
|  | 9  | (12) HD-32297 | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L                          | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                           | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |  |
|  | 10   | (12) HD-32297 | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |                           | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |  |
|  | 11   | (12) HD-32297 | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |  |
|  | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |               |                                 |                                 |                                  |                                  |                           |                           |                         |       |  |
|  | 12   | (12) HD-32297 | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |               |                                 |                                 |                                  |                                  |                           |                           |                         |       |  |
| 13   | (12) HD-32297  | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,1                     | Sequence 1-13 Non-I<br>nt | [==>]                     | [1]                     |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |               |                                 |                                 |                                  |                                  |                           |                           |                         |       |  |



Proposal 10847 - Visit 23 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:25 GMT 2007

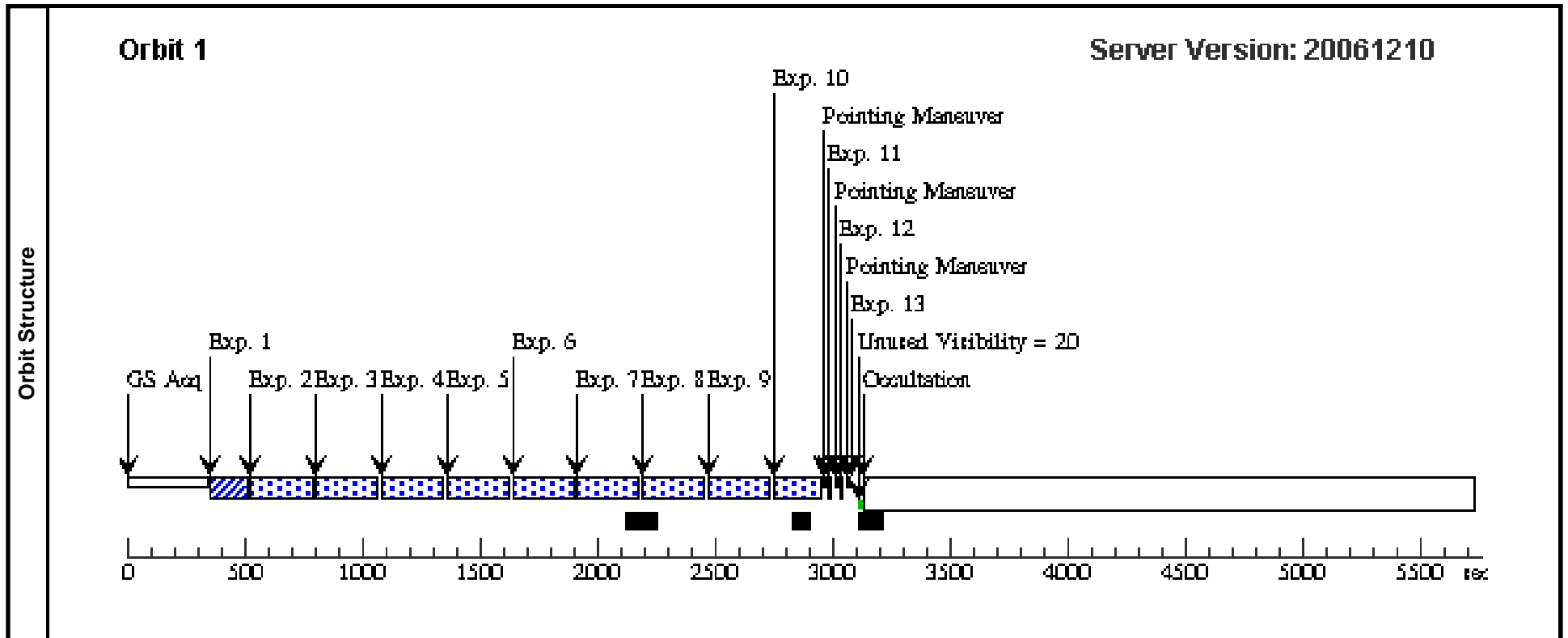
|              |   |  |  |  |  |
|--------------|---|--|--|--|--|
| <b>Visit</b> | <p><b>Proposal 10847, Visit 23, completed</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: NIC2</p> <p>Special Requirements: PCS MODE FINE; SAME ORIENT AS 21</p> <p><i>Comments: HD 32297. Second of two visits.</i></p> <p><i>We specify relative orient of +120 to 125 deg from Visit 20, which APT shows as schedulable.</i></p> <p><i>A relative orient of -150 deg to -145 deg from Visit 20 is also acceptable.</i></p> <p><i>We PREFER a GROUP 22,23 WITHIN 2 ORBITS timing linkage, but APT indicates no schedulability with either Orient FROM ranges, so we remove it.</i></p> <p><i>DO AT THE SAME ORIENTATION AS VISIT 21.</i></p> <p><i>*IF* POSSIBLE SCHEDULE VISIT 21 AND 23 IN SEQUENTIAL ORBITS. This is not a requirement, but please do so if possible.</i></p> |  |  |  |  |
|              |   |  |  |  |  |

|   |          |             |   |   |   |                       |
|---|----------|-------------|---|---|---|-----------------------|
| <b>Fixed Targets</b>  | <b>#</b> | <b>Name</b> | <b>Target Coordinates</b>   | <b>Targ. Coord. Corrections</b>   | <b>Fluxes</b>                                   | <b>Miscellaneous</b>  |
|   | (12)     | HD-32297    | RA: 05 02 27.4366 (75.6143192d)<br>Dec: +07 27 39.68 (7.46102d)<br>Equinox: J2000 | Proper Motion RA: 0.00045s/yr<br>Proper Motion Dec: -0.02332"/yr<br>Parallax: 0.00892"<br>Epoch of Position: 2000.0 | V=8.13<br>J = 7.687,<br>H = 7.624,<br>K = 7.594 | Reference Frame: ICRS |
| <i>Comments: NIC2/POL* saturation in 0.51s in central PSF pixel</i> |          |             |   |   |   |                       |

| <b>Exposures</b> | # | Label | Target        | Config,Mode,Aperture            | Spectral Els. | Opt. Params.                     | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|------------------|---|-------|---------------|---------------------------------|---------------|----------------------------------|------------------------------|-----------------------|-------------------------|-------|
|                  | 1 |       | (12) HD-32297 | NIC2, ACQ, NIC2-ACQ             | F165M         |                                  | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.305 Secs<br>[==>]     | [1]   |
|                  | 2 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 3 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 4 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 5 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 6 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 7 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 8 |       | (12) HD-32297 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |

Proposal 10847 - Visit 23 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| Exposures (continued)  | #   | Label                           | Target                          | Config,Mode,Aperture                           | Spectral Els.                                 | Opt. Params.              | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit |  |
|--|---|---------------------------------|---------------------------------|--|---|---------------------------|---------------|--------|-------------------------|-------|--|
|  | 9   | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12              | Sequence 1-13 Non-I<br>nt | [==>]         | [1]    |                         |       |  |
|  | 10  | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11              | Sequence 1-13 Non-I<br>nt | [==>]         | [1]    |                         |       |  |
|  | 11  | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L  | SAMP-SEQ=SCAM POS TARG 2,0<br>RR;<br>NSAMP=20 | Sequence 1-13 Non-I<br>nt | [==>]         | [1]    |                         |       |  |
|  | <i>Comments: Exp Time - 48s, Repeat twice (total integration time = 96s).</i> |                                 |                                 |  |   |                           |               |        |                         |       |  |
|  | 12  | (12) HD-32297                   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L  | SAMP-SEQ=SCAM POS TARG 3,0<br>RR;<br>NSAMP=20 | Sequence 1-13 Non-I<br>nt | [==>]         | [1]    |                         |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |   |                                 |                                 |  |   |                           |               |        |                         |       |  |
| 13   | (12) HD-32297   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                         | SAMP-SEQ=SCAM POS TARG 3,-1<br>RR;<br>NSAMP=20 | Sequence 1-13 Non-I<br>nt                     | [==>]                     | [1]           |        |                         |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |   |                                 |                                 |  |   |                           |               |        |                         |       |  |



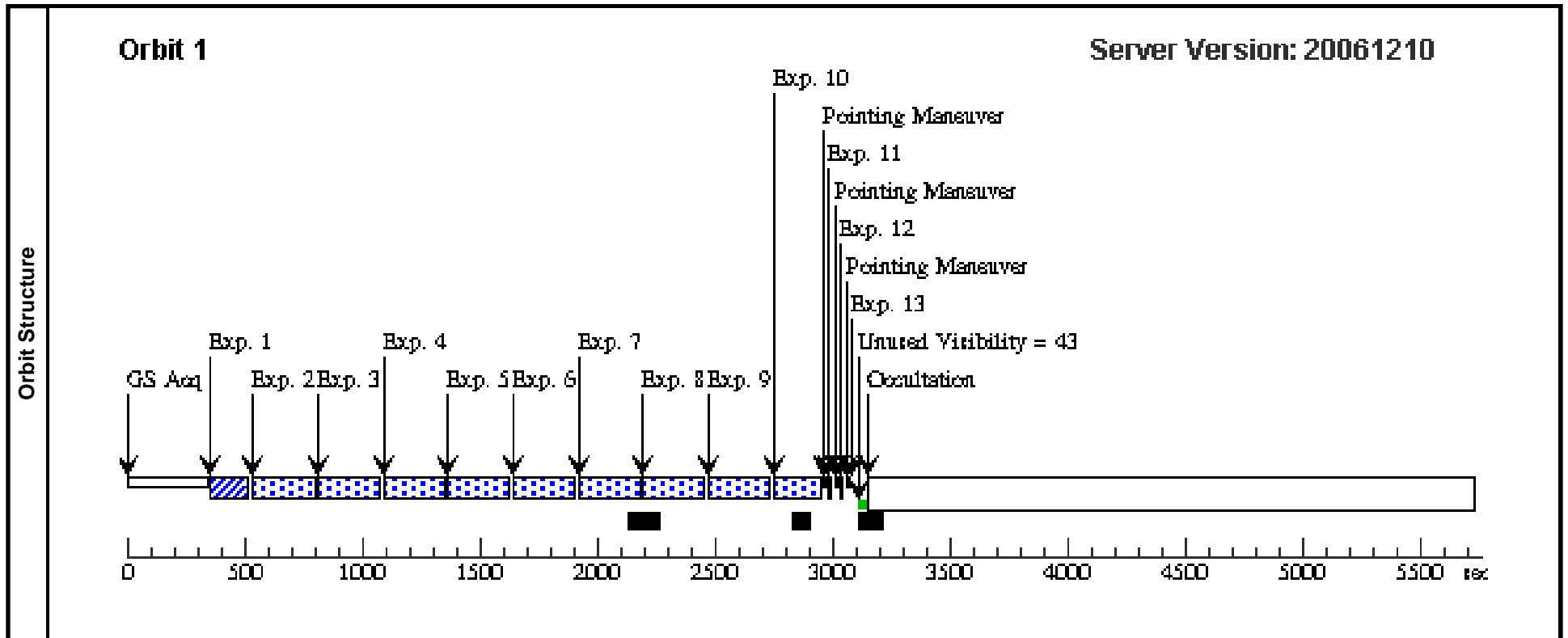
Proposal 10847 - Visit 30 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:26 GMT 2007

| Visit     | <b>Proposal 10847, Visit 30, scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: PCS MODE FINE; ORIENT 169.3D TO 189.3 D; ORIENT 79.3D TO 99.3 D; ORIENT 259.3D TO 279.3 D; ORIENT 349.3D TO 9.3 D<br>Comments: HD 4796. First of two visits.<br>FIELD ORIENTATION REQUIREMENTS.<br>PA Disk minor axis in forward direction = 116.8 Degrees.<br>ORIENT RANGES IN ORDER OF PREFERENCE: (169.3 deg to 189.3 deg), (79.3 deg to 99.3 deg), (259.3 deg to 279.3 deg), (349.3 deg to 9.3 deg) |                                 |  |  |  |                       |                              |                       |                         |       |
|-----------|--|---------------------------------|--|--|--|-----------------------|------------------------------|-----------------------|-------------------------|-------|
|           | Fixed Targets  | #                               | Name   | Target Coordinates   | Targ. Coord. Corrections                         | Fluxes                | Miscellaneous                |                       |                         |       |
|           | (13)   | HR-4796                         | RA: 12 36 1.0316 (189.0042983d)<br>Alt Name1: HD109573<br>Dec: -39 52 10.22 (-39.86951d)<br>Equinox: J2000 | Proper Motion RA: -0.00486s/yr<br>Proper Motion Dec: -0.024"/yr<br>Parallax: 0.01491"<br>Epoch of Position: 2000.0 | V=5.783<br>J = 5.784,<br>H = 5.794,<br>K = 5.769 | Reference Frame: ICRS |                              |                       |                         |       |
|           | Comments: NIC2/POL* saturation in 0.09s in central PSF pixel   |                                 |  |  |  |                       |                              |                       |                         |       |
| Exposures | #  | Label                           | Target   | Config,Mode,Aperture   | Spectral Els.                                    | Opt. Params.          | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|           | 1  | (13) HR-4796                    | NIC2, ACQ, NIC2-ACQ  | F187N  |  |                       | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.858 Secs<br>[==>]     | [1]   |
|           | 2  | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                 |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 3  | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                 |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 4  | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                 |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 5  | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                 |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 6  | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                 |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 7  | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                 |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 8  | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                 |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 9         | (13) HR-4796   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12   |  |                       | Sequence 1-13 Non-Int        | [==>]                 | [1]                     |       |

Proposal 10847 - Visit 30 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| Exposures (continued)  | #  | Label                           | Target                          | Config,Mode,Aperture             | Spectral Els.                    | Opt. Params.              | Special Reqs.             | Groups | Exp. Time/[Actual Dur.] | Orbit |  |
|--|--|---------------------------------|---------------------------------|----------------------------------|----------------------------------|---------------------------|---------------------------|--------|-------------------------|-------|--|
|  | 10   | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |                           | Sequence 1-13 Non-I<br>nt | [==>]  | [1]                     |       |  |
|  | 11   | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0              | Sequence 1-13 Non-I<br>nt | [==>]  | [1]                     |       |  |
|  | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                                 |                                 |                                  |                                  |                           |                           |        |                         |       |  |
|  | 12   | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0              | Sequence 1-13 Non-I<br>nt | [==>]  | [1]                     |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |                                 |                                 |                                  |                                  |                           |                           |        |                         |       |  |
| 13   | (13) HR-4796   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1                    | Sequence 1-13 Non-I<br>nt | [==>]                     | [1]    |                         |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |                                 |                                 |                                  |                                  |                           |                           |        |                         |       |  |



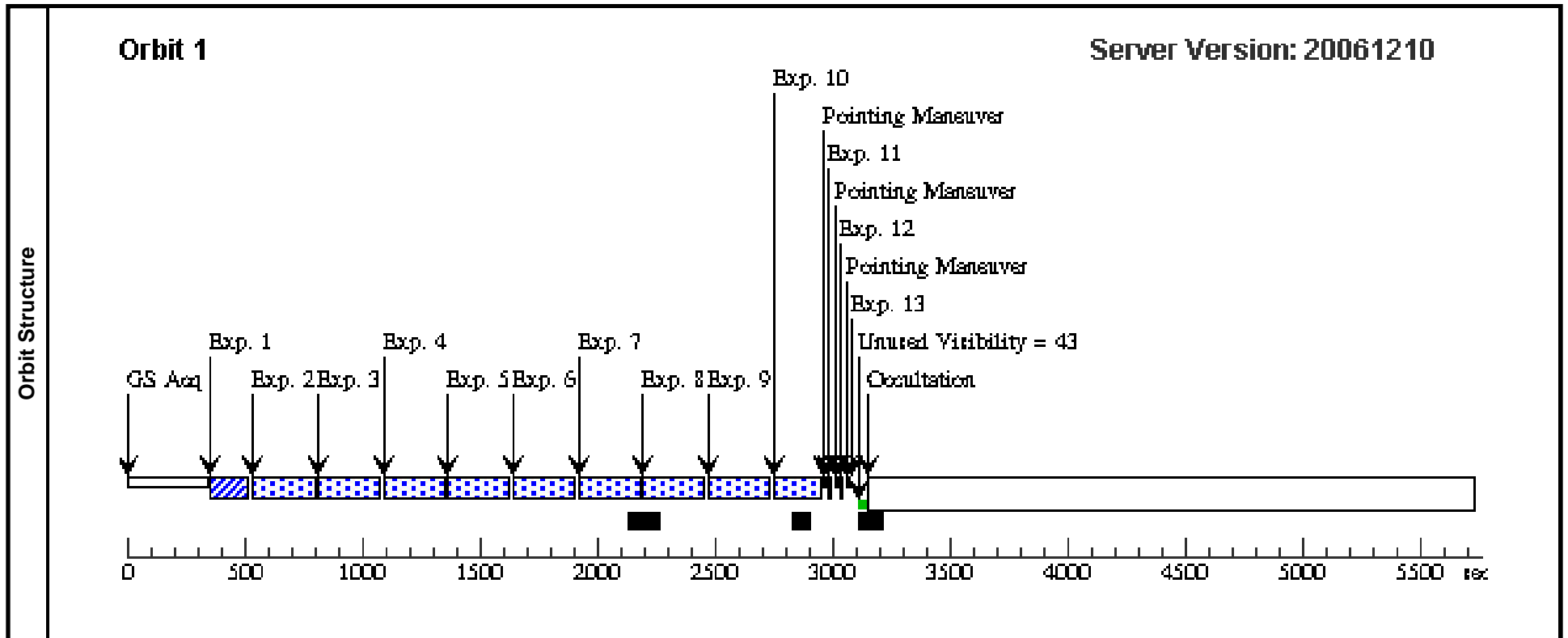
Proposal 10847 - Visit 31 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:26 GMT 2007

|   |   |                                |   |  |  |                                  |                                  |                       |                                |              |  |
|---|---|--------------------------------|---|--|--|----------------------------------|----------------------------------|-----------------------|--------------------------------|--------------|--|
| <b>Visit</b>  | <p><b>Proposal 10847, Visit 31, completed</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: NIC2</p> <p>Special Requirements: PCS MODE FINE; ORIENT 120.0D TO 125.0D FROM 30</p> <p><i>Comments: HD 4796A. Second of two visits.</i></p> <p><i>We specify relative orient of +120 to 125 deg from Visit 20, which APT shows as schedulable.</i></p> <p><i>A relative orient of -150 deg to -145 deg from Visit 20 is also acceptable.</i></p> <p><i>We PREFER a GROUP 30,31 WITHIN 2 ORBITS timing linkage, but APT indicates no schedulability with either OriENT FROM ranges, so we remove it.</i></p> |                                |   |  |  |                                  |                                  |                       |                                |              |  |
|   | <b>Fixed Targets</b>  | <b>#</b>                       | <b>Name</b>   | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b>                  | <b>Fluxes</b>                    | <b>Miscellaneous</b>             |                       |                                |              |  |
| (13)  |   | HR-4796<br>Alt Name1: HD109573 | RA: 12 36 1.0316 (189.0042983d)<br>Dec: -39 52 10.22 (-39.86951d)<br>Equinox: J2000 | Proper Motion RA: -0.00486s/yr<br>Proper Motion Dec: -0.024"/yr<br>Parallax: 0.01491"<br>Epoch of Position: 2000.0 | V=5.783<br>J = 5.784,<br>H = 5.794,<br>K = 5.769 | Reference Frame: ICRS            |                                  |                       |                                |              |  |
| <i>Comments: NIC2/POL* saturation in 0.09s in central PSF pixel</i> |   |                                |   |  |  |                                  |                                  |                       |                                |              |  |
| <b>Exposures</b>  | <b>#</b>  | <b>Label</b>                   | <b>Target</b>   | <b>Config,Mode,Aperture</b>  | <b>Spectral Els.</b>                             | <b>Opt. Params.</b>              | <b>Special Reqs.</b>             | <b>Groups</b>         | <b>Exp. Time/[Actual Dur.]</b> | <b>Orbit</b> |  |
|   | 1   | (13) HR-4796                   |   | NIC2, ACQ, NIC2-ACQ  | F187N  |                                  | GS ACQ SCENARI<br>O BASE1TNS     | Sequence 1-13 Non-Int | 0.858 Secs<br>[==>]            | [1]          |  |
|   | <i>Comments: H = 8.1, MOV. Goal = 77, 000 e-. F160W @ 0.237S (79, 500e-)</i>  |                                |   |  |  |                                  |                                  |                       |                                |              |  |
|   | 2   | (13) HR-4796                   |   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L  |                                  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 | Sequence 1-13 Non-Int | [==>]                          | [1]          |  |
|   | 3   | (13) HR-4796                   |   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L  |                                  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 | Sequence 1-13 Non-Int | [==>]                          | [1]          |  |
|   | 4   | (13) HR-4796                   |   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L  |                                  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 | Sequence 1-13 Non-Int | [==>]                          | [1]          |  |
|   | 5   | (13) HR-4796                   |   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L  |                                  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 | Sequence 1-13 Non-Int | [==>]                          | [1]          |  |
|   | 6   | (13) HR-4796                   |   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L  |                                  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 | Sequence 1-13 Non-Int | [==>]                          | [1]          |  |
|   | 7   | (13) HR-4796                   |   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L  |                                  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 | Sequence 1-13 Non-Int | [==>]                          | [1]          |  |
|   | 8   | (13) HR-4796                   |   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L  |                                  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 | Sequence 1-13 Non-Int | [==>]                          | [1]          |  |
| 9   | (13) HR-4796  |                                | NIC2, MULTIACCUM,<br>NIC2-CORON   | POL120L  |  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 | Sequence 1-13 Non-Int            | [==>]                 | [1]                            |              |  |

Proposal 10847 - Visit 31 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| Exposures (continued)  | #  | Label                           | Target                          | Config,Mode,Aperture             | Spectral Els.                    | Opt. Params.              | Special Reqs.             | Groups | Exp. Time/[Actual Dur.] | Orbit |  |
|--|--|---------------------------------|---------------------------------|----------------------------------|----------------------------------|---------------------------|---------------------------|--------|-------------------------|-------|--|
|  | 10   | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |                           | Sequence 1-13 Non-I<br>nt | [==>]  | [1]                     |       |  |
|  | 11   | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0              | Sequence 1-13 Non-I<br>nt | [==>]  | [1]                     |       |  |
|  | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                                 |                                 |                                  |                                  |                           |                           |        |                         |       |  |
|  | 12   | (13) HR-4796                    | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0              | Sequence 1-13 Non-I<br>nt | [==>]  | [1]                     |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |                                 |                                 |                                  |                                  |                           |                           |        |                         |       |  |
| 13   | (13) HR-4796   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1                    | Sequence 1-13 Non-I<br>nt | [==>]                     | [1]    |                         |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |                                 |                                 |                                  |                                  |                           |                           |        |                         |       |  |



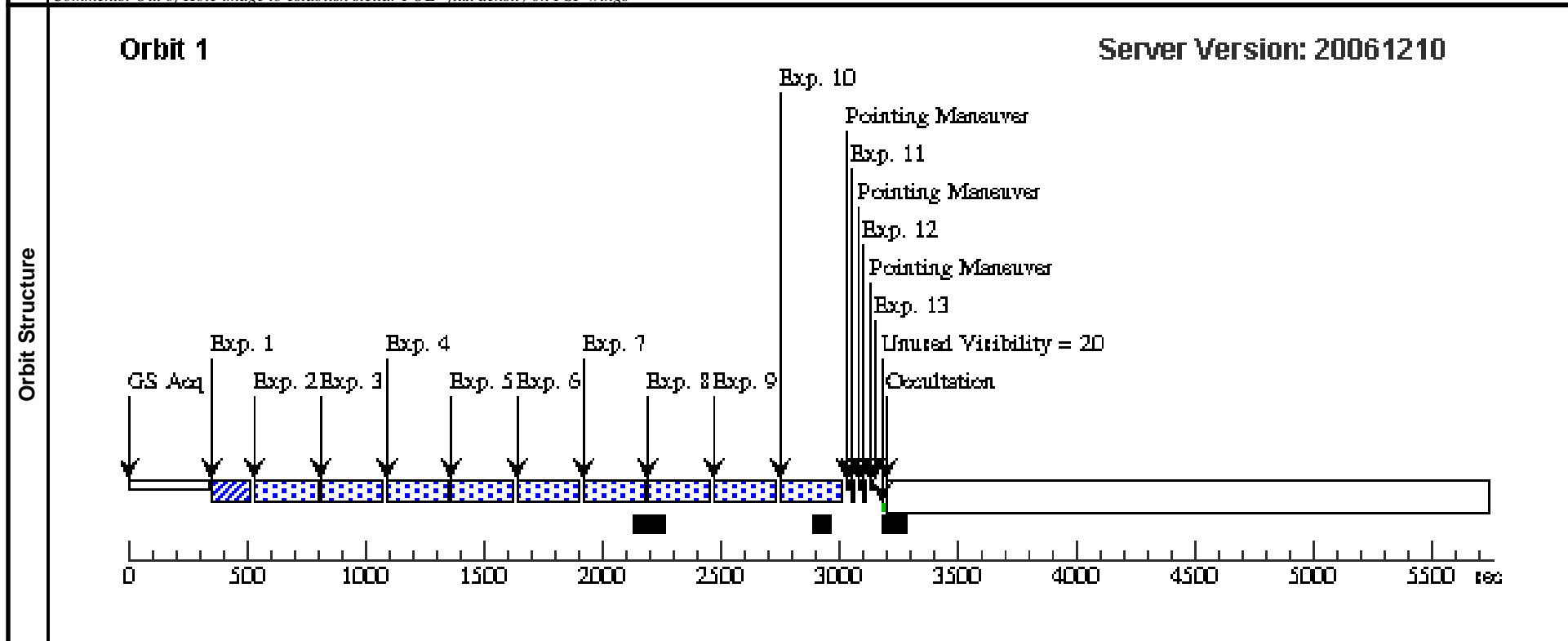
Proposal 10847 - Visit 40 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:27 GMT 2007

| Visit     | <b>Proposal 10847, Visit 40, scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: PCS MODE FINE; ORIENT 69.7D TO 89.7 D; ORIENT 339.7D TO 359.7 D; ORIENT 159.7D TO 179.7 D; ORIENT 249.7D TO 269.7 D<br>Comments: HD 181327. First of two visits.<br>FIELD ORIENTATION REQUIREMENTS.<br>PA Disk minor axis in forward direction = 17.2 Degrees.<br>ORIENT RANGES IN ORDER OF PREFERENCE: (69.7 deg to 89.7 deg), (339.7 deg to 359.7 deg), (159.7 deg to 179.7 deg), (249.7 deg to 269.7 deg) |                                 |  |   |  |                       |                              |                       |                         |       |
|-----------|---|---------------------------------|--|---|--|-----------------------|------------------------------|-----------------------|-------------------------|-------|
|           | Fixed Targets   | #                               | Name   | Target Coordinates  | Targ. Coord. Corrections                       | Fluxes                | Miscellaneous                |                       |                         |       |
|           | (14)  | HD-181327                       | RA: 19 22 58.9429 (290.7455954d)<br>Dec: -54 32 16.97 (-54.53805d)<br>Equinox: J2000 | Proper Motion RA: 0.00274s/yr<br>Proper Motion Dec: -0.08177"/yr<br>Parallax: 0.01977"<br>Epoch of Position: 2000.0 | V=7.0<br>J = 6.200,<br>H = 5.980,<br>K = 5.910 | Reference Frame: ICRS |                              |                       |                         |       |
|           | Comments: NIC2/POL* saturation in 0.11s in central PSF pixel  |                                 |  |   |  |                       |                              |                       |                         |       |
| Exposures | #   | Label                           | Target   | Config,Mode,Aperture  | Spectral Els.                                  | Opt. Params.          | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|           | 1   | (14) HD-181327                  | NIC2, ACQ, NIC2-ACQ  | F180M   |  |                       | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.2443 Secs<br>[==>]    | [1]   |
|           | 2   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 3   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 4   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 5   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 6   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 7   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 8   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 9         | (14) HD-181327  | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                       | Sequence 1-13 Non-Int        | [==>]                 | [1]                     |       |

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| #  | Label  | Target                          | Config,Mode,Aperture            | Spectral Els.                    | Opt. Params.                     | Special Reqs.         | Groups                | Exp. Time/[Actual Dur.] | Orbit |  |
|--|--|---------------------------------|---------------------------------|----------------------------------|----------------------------------|-----------------------|-----------------------|-------------------------|-------|--|
| Exposures (continued)  | 10   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                       | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|  | 11   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0          | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|  | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                                 |                                 |                                  |                                  |                       |                       |                         |       |  |
|  | 12   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                          | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0          | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |                                 |                                 |                                  |                                  |                       |                       |                         |       |  |
| 13   | (14) HD-181327   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L                         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1                    | Sequence 1-13 Non-Int | [==>]                 | [1]                     |       |  |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |  |                                 |                                 |                                  |                                  |                       |                       |                         |       |  |



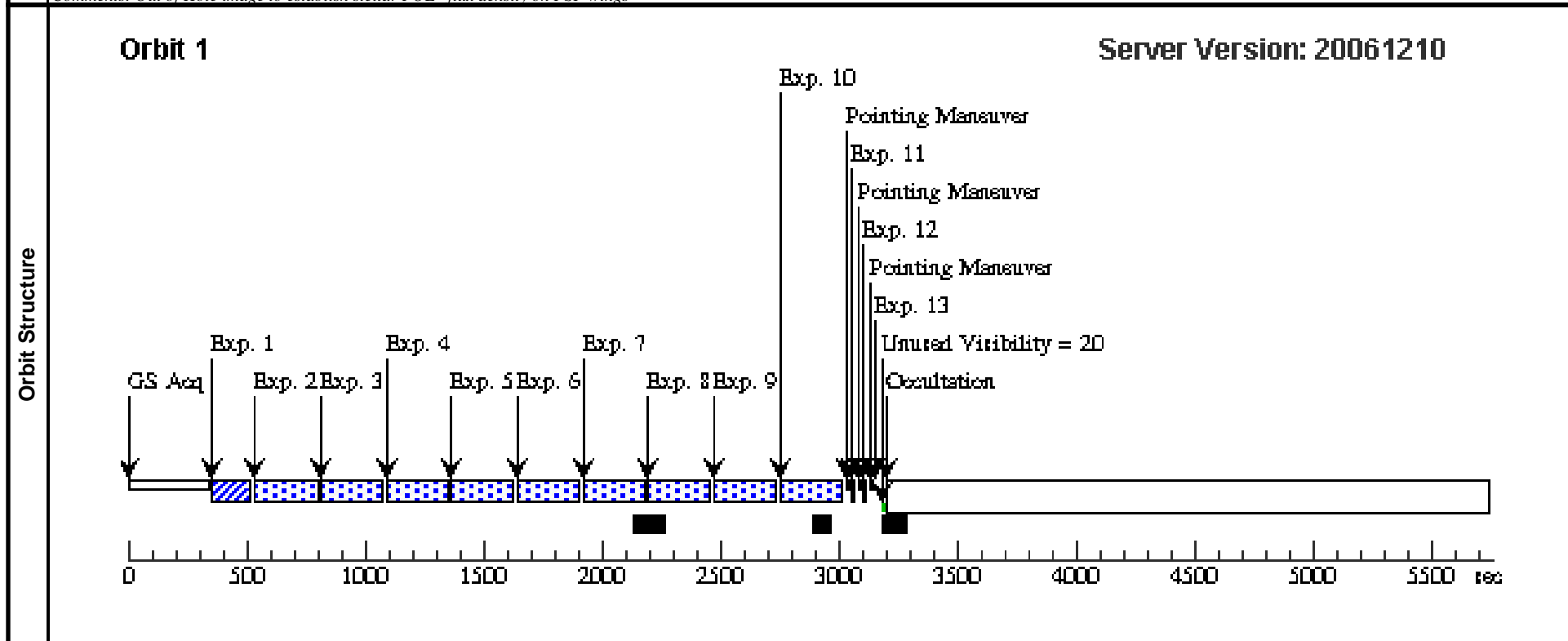
Proposal 10847 - Visit 41 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:28 GMT 2007

| Visit     | <b>Proposal 10847, Visit 41, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: PCS MODE FINE; ORIENT 120.0D TO 125.0D FROM 40<br>Comments: HD 181327. Second of two visits.<br>We specify relative orient of +120 to 125 deg from Visit 20, which APT shows as schedulable.<br>A relative orient of -150 deg to -145 deg from Visit 20 is also acceptable.<br>We PREFER a GROUP 40,41 WITHIN 2 ORBITS timing linkage, but APT indicates no schedulability with either OriENT FROM ranges, so we remove it. |                                 |  |   |  |                       |                              |                       |                         |       |
|-----------|---|---------------------------------|--|---|--|-----------------------|------------------------------|-----------------------|-------------------------|-------|
|           | Fixed Targets   | #                               | Name   | Target Coordinates  | Targ. Coord. Corrections                       | Fluxes                | Miscellaneous                |                       |                         |       |
|           | (14)  | HD-181327                       | RA: 19 22 58.9429 (290.7455954d)<br>Dec: -54 32 16.97 (-54.53805d)<br>Equinox: J2000 | Proper Motion RA: 0.00274s/yr<br>Proper Motion Dec: -0.08177"/yr<br>Parallax: 0.01977"<br>Epoch of Position: 2000.0 | V=7.0<br>J = 6.200,<br>H = 5.980,<br>K = 5.910 | Reference Frame: ICRS |                              |                       |                         |       |
|           | Comments: NIC2/POL* saturation in 0.11s in central PSF pixel  |                                 |  |   |  |                       |                              |                       |                         |       |
| Exposures | #   | Label                           | Target   | Config,Mode,Aperture  | Spectral Els.                                  | Opt. Params.          | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|           | 1   | (14) HD-181327                  | NIC2, ACQ, NIC2-ACQ  | F180M   |  |                       | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.243 Secs<br>[==>]     | [1]   |
|           | 2   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 3   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 4   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 5   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 6   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 7   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 8   | (14) HD-181327                  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12               |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 9         | (14) HD-181327  | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                       | Sequence 1-13 Non-Int        | [==>]                 | [1]                     |       |

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| #  | Label          | Target                          | Config,Mode,Aperture | Spectral Els.                    | Opt. Params.  | Special Reqs.         | Groups | Exp. Time/[Actual Dur.] | Orbit |
|--|----------------|---------------------------------|----------------------|----------------------------------|---------------|-----------------------|--------|-------------------------|-------|
| 10   | (14) HD-181327 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| 11   | (14) HD-181327 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0  | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |                      |                                  |               |                       |        |                         |       |
| 12   | (14) HD-181327 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0  | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |                      |                                  |               |                       |        |                         |       |
| 13   | (14) HD-181327 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1 | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |                      |                                  |               |                       |        |                         |       |



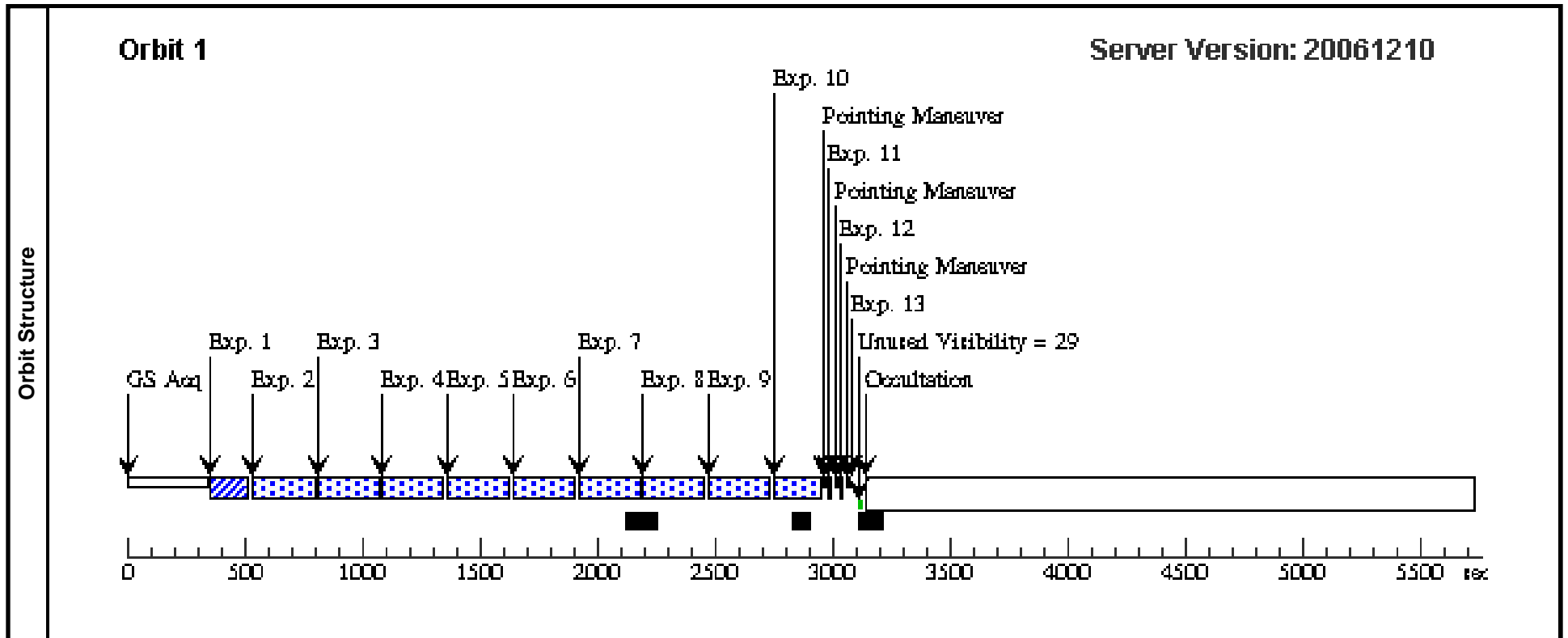
Proposal 10847 - Visit 50 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:28 GMT 2007

|   |  |  |  |   |                                  |                      |                              |                       |                                |              |
|---|--|--|--|---|----------------------------------|----------------------|------------------------------|-----------------------|--------------------------------|--------------|
| <b>Visit</b>  | <p><b>Proposal 10847, Visit 50, scheduling</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: NIC2</p> <p>Special Requirements: PCS MODE FINE; ORIENT 189.7D TO 211.7 D; GROUP 50,51 WITHIN 1.5 Orbits</p> <p><i>Comments: HD 107146. First of two back-to-back visits (order does not matter) at THIS (first) Orientation.</i></p> <p><b>FIELD ORIENTATION REQUIREMENTS.</b></p> <p><i>PA Disk minor axis in forward direction = 58 Degrees.</i></p> <p><i>{We understand our preferential orientation requirements:</i></p> <p><b>ORIENT RANGES IN ORDER OF PREFERENCE:</b> (110.5 deg to 130.5 deg), (20.5 deg to 40.5 deg), (200.5 deg to 220.5 deg), (290.5 deg to 310.5 deg)</p> <p><i>are unacheivable due to guide star and FHST constraints.}</i></p> <p><i>As a result we levy, instead, an Absolute Orientation Range requirement of 189.7 to 211.73 degrees.</i></p> <p><i>*NOTE PLEASE*: The CLOSER to 189.7 degrees the better!</i></p> <p><i>For Visit 51 we specify as SAME ORIENTATION AS 50.</i></p> <p><i>We now request be done in "back to back" orbits as reflected by a GROUP WITHIN requirement for Visits 50 and 51.</i></p> <p><i>ALSO: We place ABSOLUTE orientation requirements on Visits 52 and 53. While there are no formal linkages to Visits 50 and 51, we DO REQUEST that the absolute value of the differential roll (of Visits 52 and 52 w.r.t. Visit 50 and 51) be maintained at &gt;105 degrees and the larger (noting a maximum differential of 119.8 degrees is possible) the better.</i></p> |  |  |   |                                  |                      |                              |                       |                                |              |
| <b>Fixed Targets</b>  | <b>#</b>   | <b>Name</b>  | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b>                 | <b>Fluxes</b>                    | <b>Miscellaneous</b> |                              |                       |                                |              |
| (15)  | HD-107146  | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS            |                      |                              |                       |                                |              |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |  |  |  |   |                                  |                      |                              |                       |                                |              |
| <b>Exposures</b>  | <b>#</b>   | <b>Label</b>   | <b>Target</b>  | <b>Config,Mode,Aperture</b>                     | <b>Spectral Els.</b>             | <b>Opt. Params.</b>  | <b>Special Reqs.</b>         | <b>Groups</b>         | <b>Exp. Time/[Actual Dur.]</b> | <b>Orbit</b> |
|   | 1  | (15) HD-107146   | NIC2, ACQ, NIC2-ACQ  | F171M   |                                  |                      | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.751 Secs<br>[==>]            | [1]          |
|   | 2  | (15) HD-107146   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                      |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 3  | (15) HD-107146   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                      |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
|   | 4  | (15) HD-107146   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                      |                              | Sequence 1-13 Non-Int | [==>]                          | [1]          |
| 5   | (15) HD-107146   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                                  |                      | Sequence 1-13 Non-Int        | [==>]                 | [1]                            |              |

Proposal 10847 - Visit 50 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| #                     | Label  | Target         | Config,Mode,Aperture            | Spectral Els. | Opt. Params.                     | Special Reqs. | Groups                | Exp. Time/[Actual Dur.] | Orbit |  |
|-----------------------|--|----------------|---------------------------------|---------------|----------------------------------|---------------|-----------------------|-------------------------|-------|--|
| Exposures (continued) | 6  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 7  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 8  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 9  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 10   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 11   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | F110W         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0  | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |
|                       | 12   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | F110W         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0  | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |
|                       | 13   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | F110W         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1 | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |



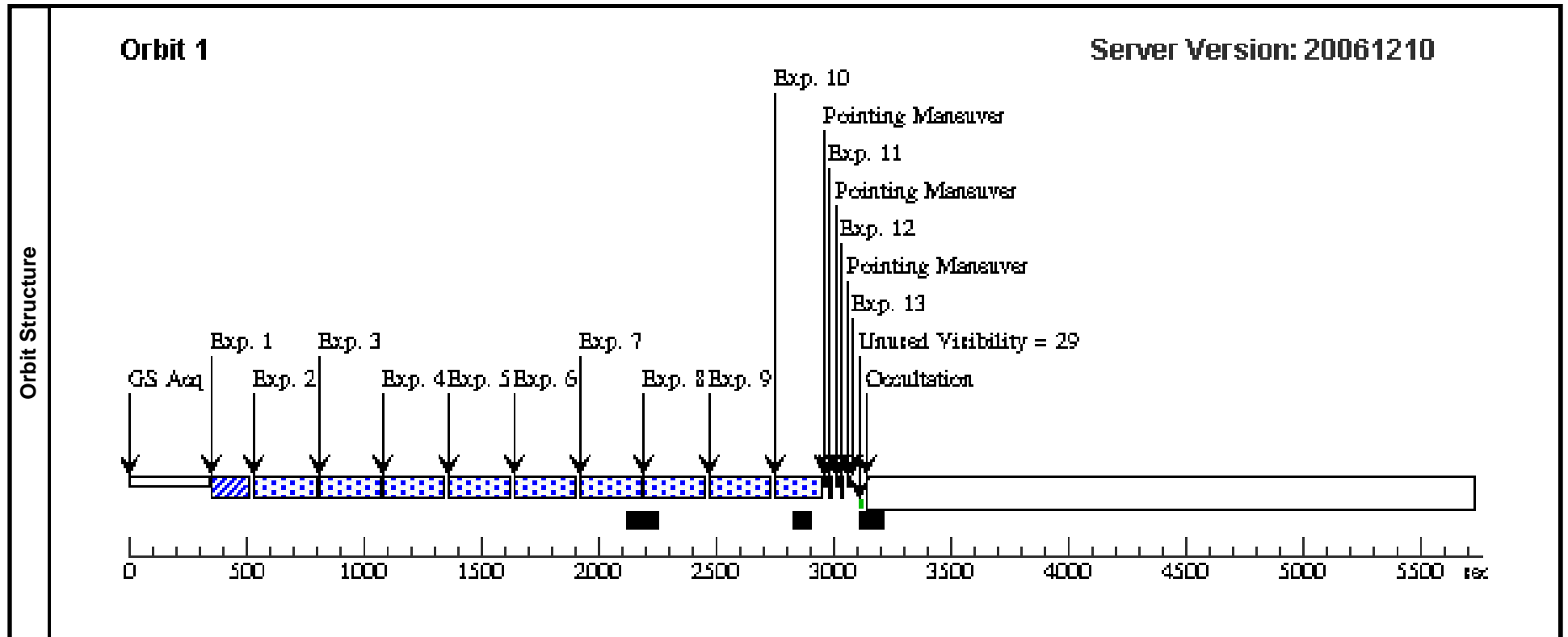
Proposal 10847 - Visit 51 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:29 GMT 2007

|   |   |  |  |   |                                  |                      |                              |                           |                                |              |
|---|---|--|--|---|----------------------------------|----------------------|------------------------------|---------------------------|--------------------------------|--------------|
| <b>Visit</b>  | <p><b>Proposal 10847, Visit 51, implementation</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: NIC2</p> <p>Special Requirements: PCS MODE FINE; SAME ORIENT AS 50</p> <p><i>Comments: HD 107146. First of two back-to-back visits (order does not matter) at THIS Orientation.</i></p> <p><b>FIELD ORIENTATION REQUIREMENTS.</b></p> <p>PA Disk minor axis in forward direction = 58 Degrees.</p> <p>{We understand our preferential orientation requirements:</p> <p><b>ORIENT RANGES IN ORDER OF PREFERENCE:</b> (110.5 deg to 130.5 deg), (20.5 deg to 40.5 deg), (200.5 deg to 220.5 deg), (290.5 deg to 310.5 deg) are unacheivable due to guide star and FHST constraints.}</p> <p>As a result we levy, instead, an Absolute Orientation Range requirement of 189.7 to 211.73 degrees (via a SAME ORIENT AS Visit 50 requirement).</p> <p>*NOTE PLEASE*: The CLOSER to 189.7 degrees the better!</p> <p>For Visit 51 we specify as SAME ORIENTATION AS 50.</p> <p>We now request be done in "back to back" orbits as reflected by a GROUP WITHIN requirement for Visits 50 and 51.</p> <p>ALSO: We place ABSOLUTE orientation requirements on Visits 52 and 53. While there are no formal linkages to Visits 50 and 51, we DO REQUEST that the absolute value of the differential roll (of Visits 52 and 52 w.r.t. Visit 50 and 51) be maintained at &gt;105 degrees and the larger (noting a maximum differential of 119.8 degrees is possible) the better.</p> |  |  |   |                                  |                      |                              |                           |                                |              |
| <b>Fixed Targets</b>  | <b>#</b>  | <b>Name</b>  | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b>                 | <b>Fluxes</b>                    | <b>Miscellaneous</b> |                              |                           |                                |              |
| (15)  | HD-107146   | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS            |                      |                              |                           |                                |              |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |   |  |  |   |                                  |                      |                              |                           |                                |              |
| <b>Exposures</b>  | <b>#</b>  | <b>Label</b>   | <b>Target</b>  | <b>Config,Mode,Aperture</b>                     | <b>Spectral Els.</b>             | <b>Opt. Params.</b>  | <b>Special Reqs.</b>         | <b>Groups</b>             | <b>Exp. Time/[Actual Dur.]</b> | <b>Orbit</b> |
|   | 1   | (15) HD-107146   | NIC2, ACQ, NIC2-ACQ  | F171M   |                                  |                      | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-I<br>nt | 0.751 Secs<br>[==>]            | [1]          |
|   | 2   | (15) HD-107146   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                      |                              | Sequence 1-13 Non-I<br>nt | [==>]                          | [1]          |
|   | 3   | (15) HD-107146   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                      |                              | Sequence 1-13 Non-I<br>nt | [==>]                          | [1]          |
|   | 4   | (15) HD-107146   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                      |                              | Sequence 1-13 Non-I<br>nt | [==>]                          | [1]          |
| 5   | (15) HD-107146  | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12                |                                  |                      | Sequence 1-13 Non-I<br>nt    | [==>]                     | [1]                            |              |

Proposal 10847 - Visit 51 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| #                     | Label  | Target         | Config,Mode,Aperture            | Spectral Els. | Opt. Params.                     | Special Reqs. | Groups                | Exp. Time/[Actual Dur.] | Orbit |  |
|-----------------------|--|----------------|---------------------------------|---------------|----------------------------------|---------------|-----------------------|-------------------------|-------|--|
| Exposures (continued) | 6  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 7  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 8  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 9  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 10   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 11   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0  | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |
|                       | 12   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0  | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |
|                       | 13   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1 | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |



Proposal 10847 - Visit 52 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:29 GMT 2007

**Proposal 10847, Visit 52, completed**

**Diagnostic Status: No Diagnostics**

Scientific Instruments: NIC2

Special Requirements: PCS MODE FINE; ORIENT 294.26D to 309.51 D; GROUP 52,53 WITHIN 1.5 Orbits

*Comments: HD 107146. First of two back-to-back visits (order does not matter) at THIS (second) Orientation. FIELD ORIENTATION REQUIREMENTS. PA Disk minor axis in forward direction = 58 Degrees. {We understand our preferential orientation requirements: ORIENT RANGES IN ORDER OF PREFERENCE: (110.5 deg to 130.5 deg), (20.5 deg to 40.5 deg), (200.5 deg to 220.5 deg), (290.5 deg to 310.5 deg) are unacheivable due to guide star and FHST constraints.}*

*As a result we levy, instead, an Absolute Orientation Range requirement of 294.26 to 309.51 degrees.*

*\*NOTE PLEASE\*: The CLOSER to 309.51 degrees the better!*

*For Visit 53 we specify as SAME ORIENTATION AS 52.*

*We now request be done in "back to back" orbits as reflected by a GROUP WITHIN requirement for Visits 53 and 52.*

*ALSO: We place ABSOLUTE orientation requirements on Visits 52 and 53. While there are no formal linkages to Visits 50 and 51, we DO REQUEST that the absolute values of the differential roll (of Visits 52 and 52 w.r.t. Visit 50 and 51) be maintained at >105 degrees and the larger (noting a maximum differential of 119.8 degrees is possible) the better.*

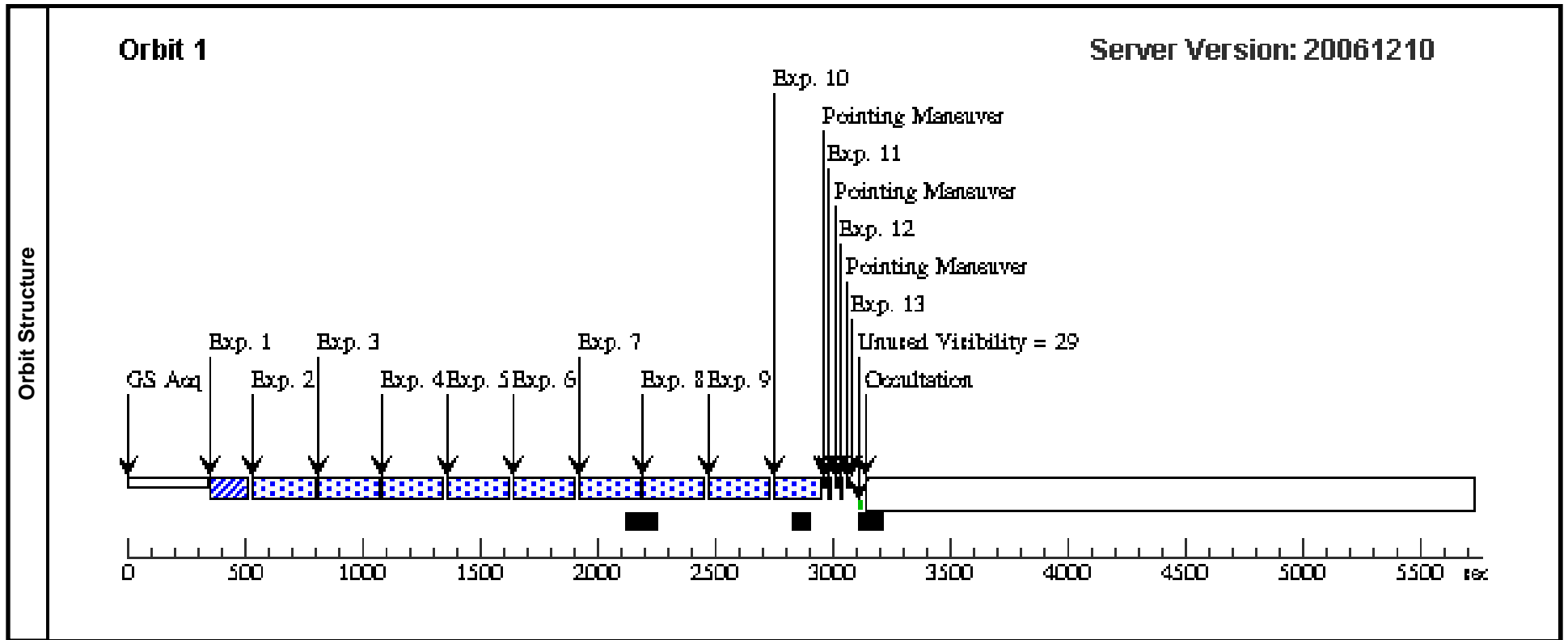
| Fixed Targets | #    | Name      | Target Coordinates   | Targ. Coord. Corrections   | Fluxes  | Miscellaneous         |
|---------------|------|-----------|--|--|---|-----------------------|
|               | (15) | HD-107146 | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |

*Comments: NIC2/POL\* saturation in 0.08s in central PSF pixel*

| Exposures | # | Label          | Target                          | Config,Mode,Aperture | Spectral Els.                    | Opt. Params. | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|-----------|---|----------------|---------------------------------|----------------------|----------------------------------|--------------|------------------------------|-----------------------|-------------------------|-------|
|           | 1 | (15) HD-107146 | NIC2, ACQ, NIC2-ACQ             | F171M                |                                  |              | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.751 Secs<br>[==>]     | [1]   |
|           | 2 | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L                | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |              |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 3 | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L              | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |              |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 4 | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |              |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 5 | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L                | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |              |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |

Proposal 10847 - Visit 52 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| #                     | Label  | Target         | Config,Mode,Aperture            | Spectral Els. | Opt. Params.                     | Special Reqs. | Groups                | Exp. Time/[Actual Dur.] | Orbit |  |
|-----------------------|--|----------------|---------------------------------|---------------|----------------------------------|---------------|-----------------------|-------------------------|-------|--|
| Exposures (continued) | 6  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 7  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 8  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 9  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 10   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 11   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | F110W         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0  | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |
|                       | 12   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | F110W         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0  | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |
|                       | 13   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | F110W         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1 | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |



Proposal 10847 - Visit 53 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:30 GMT 2007

**Proposal 10847, Visit 53, completed**

**Diagnostic Status: No Diagnostics**

Scientific Instruments: NIC2

Special Requirements: PCS MODE FINE; SAME ORIENT AS 52

*Comments: HD 107146. First of two back-to-back visits (order does not matter) at THIS (second) Orientation.*

**FIELD ORIENTATION REQUIREMENTS.**

PA Disk minor axis in forward direction = 58 Degrees.

{We understand our preferential orientation requirements:  
**ORIENT RANGES IN ORDER OF PREFERENCE:** (110.5 deg to 130.5 deg), (20.5 deg to 40.5 deg), (200.5 deg to 220.5 deg), (290.5 deg to 310.5 deg)  
 are unacheivable due to guide star and FHST constraints.}

As a result we levy, instead, an Absolute Orientation Range requirement of 294.26 to 309.51 degrees (via a SAME ORIENT AS visit 52 requirement).

\*NOTE PLEASE\*: The CLOSER to 309.51 degrees the better!

For Visit 53 we specify as SAME ORIENTATION AS 52.

We now request be done in "back to back" orbits as reflected by a GROUP WITHIN requirement for Visits 53 and 52.

ALSO: We place ABSOLUTE orientation requirements on Visits 52 and 53. While there are no formal linkages to Visits 50 and 51, we DO REQUEST that the absolute value of the differential roll (of Visits 52 and 52 w.r.t. Visit 50 and 51) be maintained at >105 degrees and the larger (noting a maximum differential of 119.8 degrees is possible) the better.

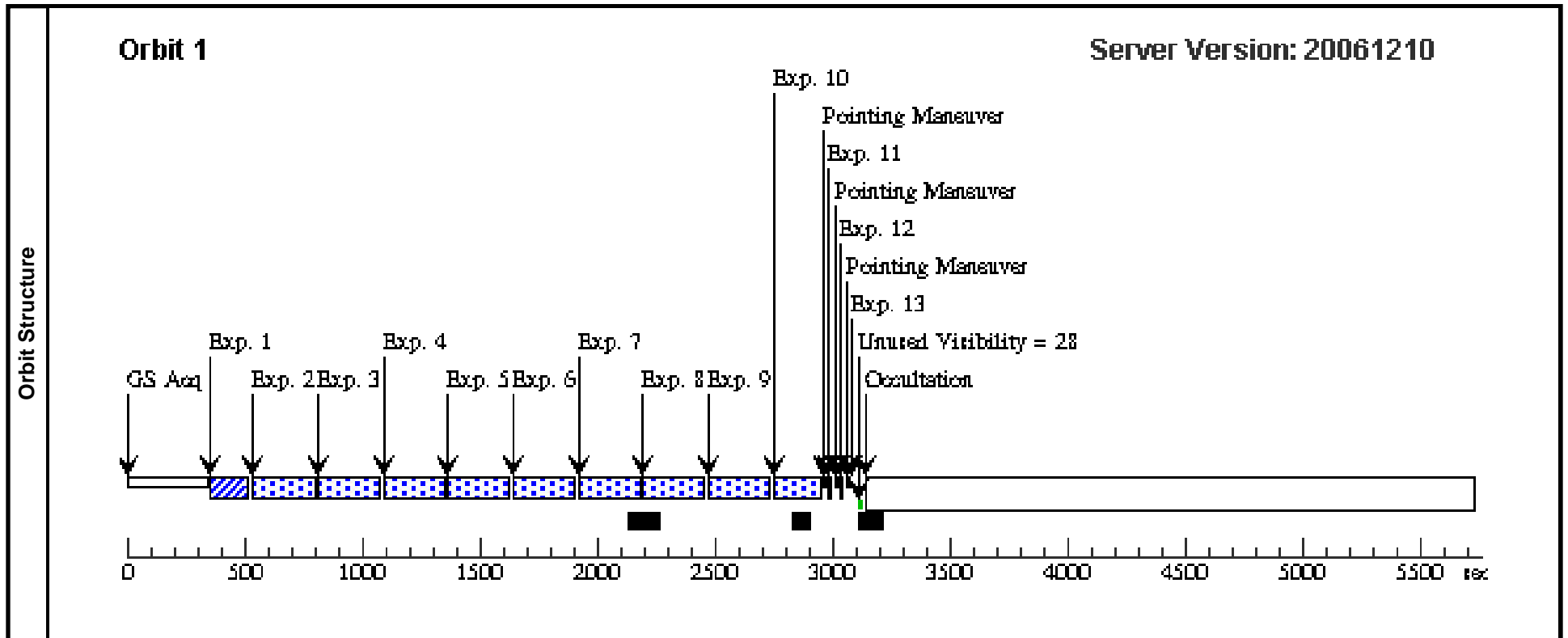
| Fixed Targets | #    | Name      | Target Coordinates   | Targ. Coord. Corrections   | Fluxes  | Miscellaneous         |
|---------------|------|-----------|--|--|---|-----------------------|
|               | (15) | HD-107146 | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |

*Comments: NIC2/POL\* saturation in 0.08s in central PSF pixel*

| Exposures | # | Label          | Target                          | Config,Mode,Aperture | Spectral Els.                    | Opt. Params. | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|-----------|---|----------------|---------------------------------|----------------------|----------------------------------|--------------|------------------------------|-----------------------|-------------------------|-------|
|           | 1 | (15) HD-107146 | NIC2, ACQ, NIC2-ACQ             | F187N                |                                  |              | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.751 Secs<br>[==>]     | [1]   |
|           | 2 | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L                | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |              |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 3 | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L              | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |              |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 4 | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |              |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 5 | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L                | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |              |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |

Proposal 10847 - Visit 53 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| #                     | Label  | Target         | Config,Mode,Aperture            | Spectral Els. | Opt. Params.                     | Special Reqs. | Groups                | Exp. Time/[Actual Dur.] | Orbit |  |
|-----------------------|--|----------------|---------------------------------|---------------|----------------------------------|---------------|-----------------------|-------------------------|-------|--|
| Exposures (continued) | 6  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 7  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 8  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 9  | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 10   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=11 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | 11   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0  | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |
|                       | 12   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0  | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |
|                       | 13   | (15) HD-107146 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1 | Sequence 1-13 Non-Int | [==>]                   | [1]   |  |
|                       | <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                |                                 |               |                                  |               |                       |                         |       |  |



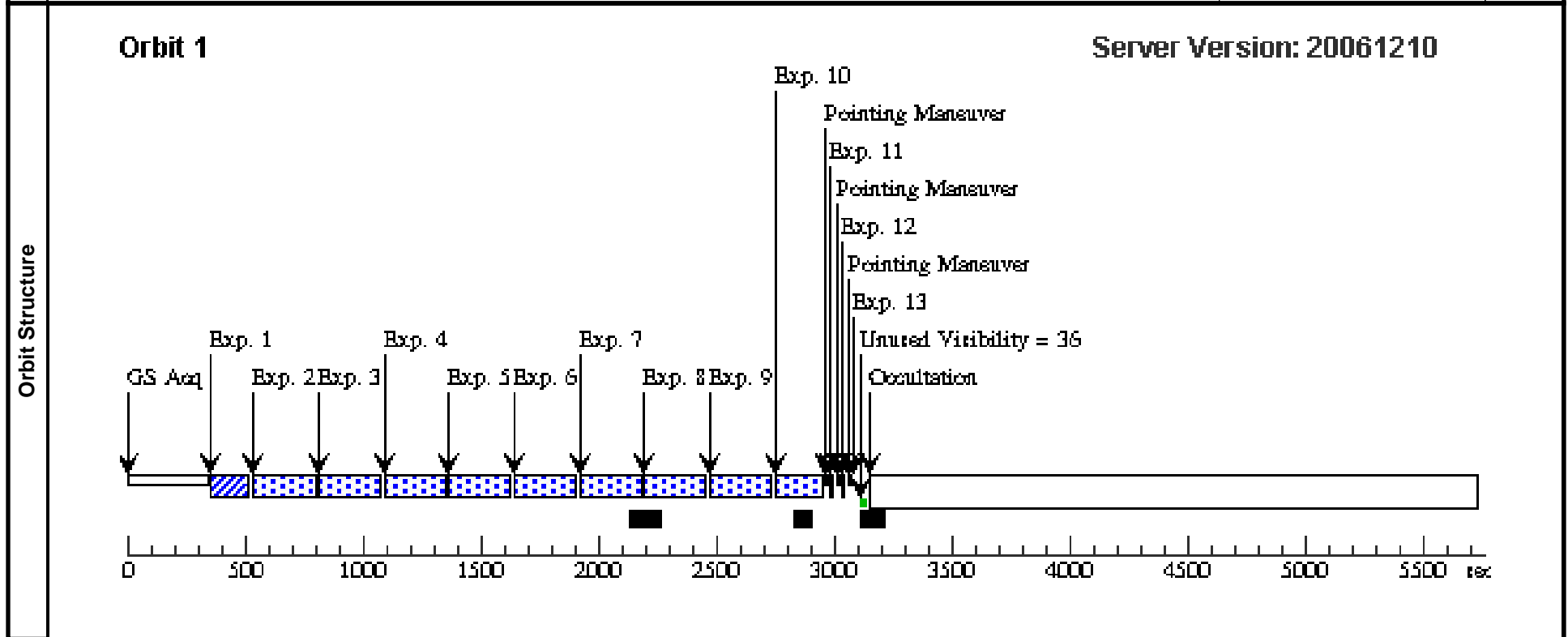
Proposal 10847 - Visit 60 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:31 GMT 2007

| Visit     | <b>Proposal 10847, Visit 60, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: PCS MODE FINE; ORIENT 214.5D TO 234.5 D; ORIENT 124.5D TO 144.5 D; ORIENT 304.5D TO 324.5 D; ORIENT 34.5D TO 54.5 D<br><i>Comments: HD 61005. First of two visits.</i><br><b>FIELD ORIENTATION REQUIREMENTS.</b><br>PA Disk minor axis in forward direction = 162 Degrees.<br><b>ORIENT RANGES IN ORDER OF PREFERENCE:</b> (214.5 deg to 234.5 deg), (124.5 deg to 144.5 deg), (304.5 deg to 324.5 deg), (34.5 deg to 54.5 deg) |                                 |  |   |  |                       |                              |                       |                         |       |
|-----------|---|---------------------------------|--|---|--|-----------------------|------------------------------|-----------------------|-------------------------|-------|
|           | Fixed Targets   | #                               | Name   | Target Coordinates  | Targ. Coord. Corrections                   | Fluxes                | Miscellaneous                |                       |                         |       |
|           | (16)  | HD-61005                        | RA: 07 35 47.4617 (113.9477571d)<br>Dec: -32 12 14.04 (-32.20390d)<br>Equinox: J2000 | Proper Motion RA: -0.004s/yr<br>Proper Motion Dec: 0.075"/yr<br>Parallax: 0.029"<br>Epoch of Position: 2000.0 | V=8.22<br>J=6.90,<br>H = 6.58,<br>K = 6.46 | Reference Frame: ICRS |                              |                       |                         |       |
|           | <i>Comments: NIC2/POL* saturation in 0.19s in central PSF pixel</i>   |                                 |  |   |  |                       |                              |                       |                         |       |
| Exposures | #   | Label                           | Target   | Config,Mode,Aperture  | Spectral Els.                              | Opt. Params.          | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|           | 1   | (16) HD-61005                   | NIC2, ACQ, NIC2-ACQ  | F180M   |  |                       | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.421 Secs<br>[==>]     | [1]   |
|           | 2   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 3   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 4   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 5   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 6   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 7   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 8   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 9         | (16) HD-61005   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                       | Sequence 1-13 Non-Int        | [==>]                 | [1]                     |       |

Proposal 10847 - Visit 60 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| #  | Label         | Target        | Config, Mode, Aperture       | Spectral Els. | Opt. Params.                  | Special Reqs. | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|----|---------------|---------------|------------------------------|---------------|-------------------------------|---------------|-----------------------|-------------------------|-------|
| 10 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL240L       | SAMP-SEQ=STEP6 4;<br>NSAMP=11 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 11 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL240L       | SAMP-SEQ=SCAM RR;<br>NSAMP=20 | POS TARG 2,0  | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 12 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL240L       | SAMP-SEQ=SCAM RR;<br>NSAMP=20 | POS TARG 3,0  | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 13 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL240L       | SAMP-SEQ=SCAM RR;<br>NSAMP=20 | POS TARG 3,-1 | Sequence 1-13 Non-Int | [==>]                   | [1]   |



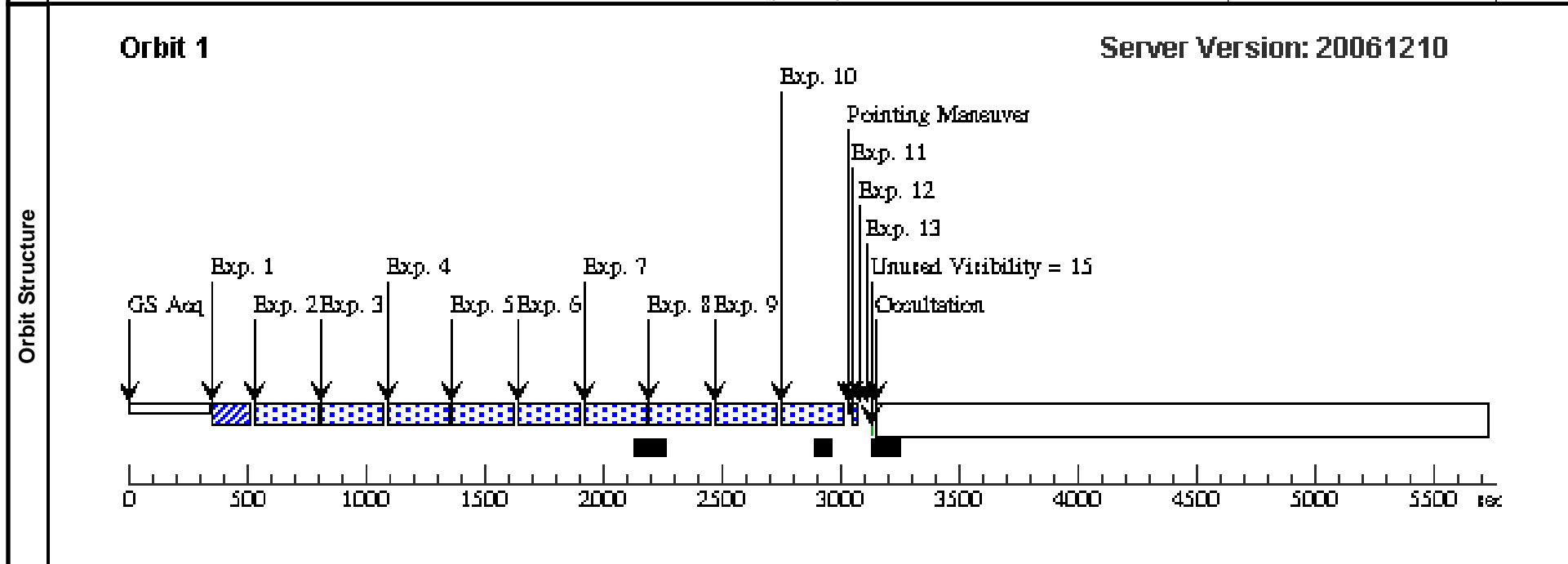
Proposal 10847 - Visit 61 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:31 GMT 2007

| Visit     | <b>Proposal 10847, Visit 61, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: PCS MODE FINE; ORIENT 120.0D TO 125.0D FROM 60<br><i>Comments: HD 61005. Second of two visits.<br/>                     We specify relative orient of +120 to 125 deg from Visit 20, which APT shows as schedulable.<br/>                     A relative orient of -150 deg to -145 deg from Visit 20 is also acceptable.<br/>                     We PREFER a GROUP 60,61 WITHIN 2 ORBITS timing linkage, but APT indicates no schedulability with either OriENT FROM ranges, so we remove it.</i> |                                 |  |   |  |                       |                              |                       |                         |       |
|-----------|---|---------------------------------|--|---|--|-----------------------|------------------------------|-----------------------|-------------------------|-------|
|           | Fixed Targets   | #                               | Name   | Target Coordinates  | Targ. Coord. Corrections                   | Fluxes                | Miscellaneous                |                       |                         |       |
|           | (16)  | HD-61005                        | RA: 07 35 47.4617 (113.9477571d)<br>Dec: -32 12 14.04 (-32.20390d)<br>Equinox: J2000 | Proper Motion RA: -0.004s/yr<br>Proper Motion Dec: 0.075"/yr<br>Parallax: 0.029"<br>Epoch of Position: 2000.0 | V=8.22<br>J=6.90,<br>H = 6.58,<br>K = 6.46 | Reference Frame: ICRS |                              |                       |                         |       |
|           | <i>Comments: NIC2/POL* saturation in 0.19s in central PSF pixel</i>   |                                 |  |   |  |                       |                              |                       |                         |       |
| Exposures | #   | Label                           | Target   | Config,Mode,Aperture  | Spectral Els.                              | Opt. Params.          | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|           | 1   | (16) HD-61005                   | NIC2, ACQ, NIC2-ACQ  | F180M   |  |                       | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.421 Secs<br>[==>]     | [1]   |
|           | 2   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 3   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 4   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 5   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 6   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 7   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|           | 8   | (16) HD-61005                   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L   | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12           |                       |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 9         | (16) HD-61005   | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                       | Sequence 1-13 Non-Int        | [==>]                 | [1]                     |       |

Proposal 10847 - Visit 61 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| #  | Label         | Target        | Config,Mode,Aperture         | Spectral Els. | Opt. Params.                  | Special Reqs.  | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|----|---------------|---------------|------------------------------|---------------|-------------------------------|----------------|-----------------------|-------------------------|-------|
| 10 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL240L       | SAMP-SEQ=STEP6 4;<br>NSAMP=12 |                | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 11 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL240L       | SAMP-SEQ=SCAM RR;<br>NSAMP=25 | POS TARG 3,0   | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 12 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL120L       | SAMP-SEQ=SCAM RR;<br>NSAMP=25 | SAME POS AS 11 | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 13 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL0L         | SAMP-SEQ=SCAM RR;<br>NSAMP=25 | SAME POS AS 11 | Sequence 1-13 Non-Int | [==>]                   | [1]   |



Proposal 10847 - Visit 62 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:31 GMT 2007

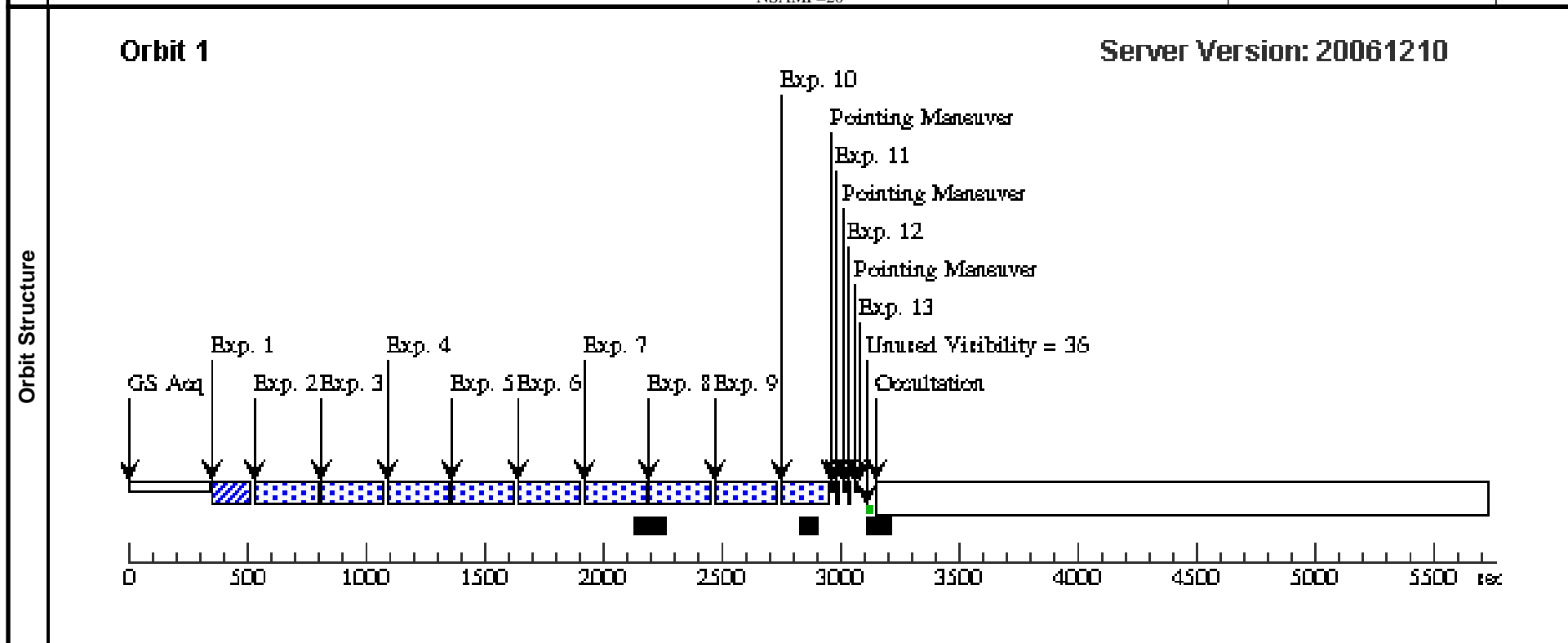
|              |  |  |  |  |  |
|--------------|--|--|--|--|--|
| <b>Visit</b> | <p><b>Proposal 10847, Visit 62, completed</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: NIC2</p> <p>Special Requirements: PCS MODE FINE; SAME ORIENT AS 60</p> <p><i>Comments: HD 61005. First of two visits. First of two visits in the second set of observations.</i></p> <p><b>FIELD ORIENTATION REQUIREMENTS.</b></p> <p>PA Disk minor axis in forward direction = 162 Degrees.</p> <p><b>ORIENT RANGES IN ORDER OF PREFERENCE:</b> (214.5 deg to 234.5 deg), (124.5 deg to 144.5 deg), (304.5 deg to 324.5 deg), (34.5 deg to 54.5 deg)</p> <p>DO AT THE SAME ORIENTATION AS VISIT 60</p> <p><i>*IF* POSSIBLE SCHEDULE VISIT 60 AND 62 IN SEQUENTIAL ORBITS. This is not a requirement, but please do so if possible.</i></p> |  |  |  |  |
|              |  |  |  |  |  |

|   |          |             |  |   |  |                       |
|---|----------|-------------|--|---|--|-----------------------|
| <b>Fixed Targets</b>  | <b>#</b> | <b>Name</b> | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b>   | <b>Fluxes</b>                              | <b>Miscellaneous</b>  |
|   | (16)     | HD-61005    | RA: 07 35 47.4617 (113.9477571d)<br>Dec: -32 12 14.04 (-32.20390d)<br>Equinox: J2000 | Proper Motion RA: -0.004s/yr<br>Proper Motion Dec: 0.075"/yr<br>Parallax: 0.029"<br>Epoch of Position: 2000.0 | V=8.22<br>J=6.90,<br>H = 6.58,<br>K = 6.46 | Reference Frame: ICRS |
| <i>Comments: NIC2/POL* saturation in 0.19s in central PSF pixel</i> |          |             |  |   |  |                       |

| <b>Exposures</b> | # | Label | Target        | Config,Mode,Aperture            | Spectral Els. | Opt. Params.                     | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|------------------|---|-------|---------------|---------------------------------|---------------|----------------------------------|------------------------------|-----------------------|-------------------------|-------|
|                  | 1 |       | (16) HD-61005 | NIC2, ACQ, NIC2-ACQ             | F180M         |                                  | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.421 Secs<br>[==>]     | [1]   |
|                  | 2 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 3 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 4 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 5 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 6 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 7 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 8 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |

Proposal 10847 - Visit 62 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| #  | Label         | Target        | Config,Mode,Aperture         | Spectral Els. | Opt. Params.                                | Special Reqs. | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|----|---------------|---------------|------------------------------|---------------|---|---------------|-----------------------|-------------------------|-------|
| 9  | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL120L       | SAMP-SEQ=STEP6 4;<br>NSAMP=12               |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 10 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL240L       | SAMP-SEQ=STEP6 4;<br>NSAMP=11               |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 11 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL240L       | SAMP-SEQ=SCAM POS TARG 2,0 RR;<br>NSAMP=20  |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 12 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL240L       | SAMP-SEQ=SCAM POS TARG 3,0 RR;<br>NSAMP=20  |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 13 | (16) HD-61005 | (16) HD-61005 | NIC2, MULTIACCUM, NIC2-CORON | POL240L       | SAMP-SEQ=SCAM POS TARG 3,-1 RR;<br>NSAMP=20 |               | Sequence 1-13 Non-Int | [==>]                   | [1]   |



Proposal 10847 - Visit 63 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:32 GMT 2007

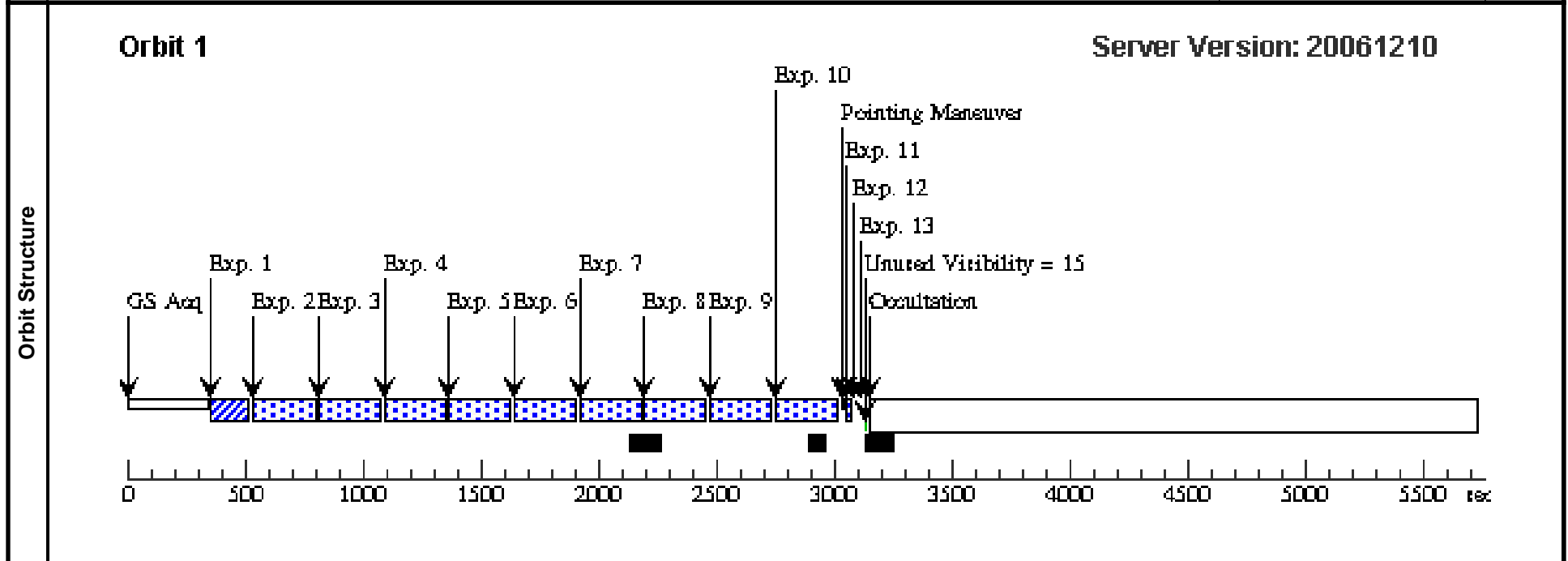
|              |   |
|--------------|---|
| <b>Visit</b> | <p><b>Proposal 10847, Visit 63, completed</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: NIC2</p> <p>Special Requirements: PCS MODE FINE; SAME ORIENT AS 61</p> <p><i>Comments: HD 61005. Second of two visits.</i></p> <p><i>We specify relative orient of +120 to 125 deg from Visit 20, which APT shows as schedulable.</i></p> <p><i>A relative orient of -150 deg to -145 deg from Visit 20 is also acceptable.</i></p> <p><i>We PREFER a GROUP 62,63 WITHIN 2 ORBITS timing linkage, but APT indicates no schedulability with either Orient FROM ranges, so we remove it.</i></p> <p><i>DO AT THE SAME ORIENTATION AS VISIT 61.</i></p> <p><i>*IF* POSSIBLE SCHEDULE VISIT 61 AND 63 IN SEQUENTIAL ORBITS. This is not a requirement, but please do so if possible.</i></p> |
|              |   |

| <b>Fixed Targets</b> | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(16)</td> <td>HD-61005</td> <td>RA: 07 35 47.4617 (113.9477571d)<br/>Dec: -32 12 14.04 (-32.20390d)<br/>Equinox: J2000</td> <td>Proper Motion RA: -0.004s/yr<br/>Proper Motion Dec: 0.075"/yr<br/>Parallax: 0.029"<br/>Epoch of Position: 2000.0</td> <td>V=8.22<br/>J=6.90,<br/>H = 6.58,<br/>K = 6.46</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table> <p><i>Comments: NIC2/POL* saturation in 0.19s in central PSF pixel</i></p> | #  | Name  | Target Coordinates                         | Targ. Coord. Corrections | Fluxes        | Miscellaneous | (16) | HD-61005 | RA: 07 35 47.4617 (113.9477571d)<br>Dec: -32 12 14.04 (-32.20390d)<br>Equinox: J2000 | Proper Motion RA: -0.004s/yr<br>Proper Motion Dec: 0.075"/yr<br>Parallax: 0.029"<br>Epoch of Position: 2000.0 | V=8.22<br>J=6.90,<br>H = 6.58,<br>K = 6.46 | Reference Frame: ICRS |
|----------------------|--|--|---|--|--------------------------|---------------|---------------|------|----------|--|---|--|-----------------------|
|                      | #  | Name   | Target Coordinates  | Targ. Coord. Corrections                   | Fluxes                   | Miscellaneous |               |      |          |  |   |  |                       |
| (16)                 | HD-61005   | RA: 07 35 47.4617 (113.9477571d)<br>Dec: -32 12 14.04 (-32.20390d)<br>Equinox: J2000 | Proper Motion RA: -0.004s/yr<br>Proper Motion Dec: 0.075"/yr<br>Parallax: 0.029"<br>Epoch of Position: 2000.0 | V=8.22<br>J=6.90,<br>H = 6.58,<br>K = 6.46 | Reference Frame: ICRS    |               |               |      |          |  |   |  |                       |
|                      |  |  |   |  |                          |               |               |      |          |  |   |  |                       |

| <b>Exposures</b> | # | Label | Target        | Config,Mode,Aperture            | Spectral Els. | Opt. Params.                     | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|------------------|---|-------|---------------|---------------------------------|---------------|----------------------------------|------------------------------|-----------------------|-------------------------|-------|
|                  | 1 |       | (16) HD-61005 | NIC2, ACQ, NIC2-ACQ             | F180M         |                                  | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.421 Secs<br>[==>]     | [1]   |
|                  | 2 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 3 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 4 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 5 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 6 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 7 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |
|                  | 8 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]   |

Proposal 10847 - Visit 63 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| #  | Label | Target        | Config,Mode,Aperture            | Spectral Els. | Opt. Params.                     | Special Reqs.  | Groups                | Exp. Time/[Actual Dur.] | Orbit |
|----|-------|---------------|---------------------------------|---------------|----------------------------------|----------------|-----------------------|-------------------------|-------|
| 9  |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 10 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 11 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L       | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=25 | POS TARG 3,0   | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 12 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L       | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=25 | SAME POS AS 11 | Sequence 1-13 Non-Int | [==>]                   | [1]   |
| 13 |       | (16) HD-61005 | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L         | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=25 | SAME POS AS 11 | Sequence 1-13 Non-Int | [==>]                   | [1]   |



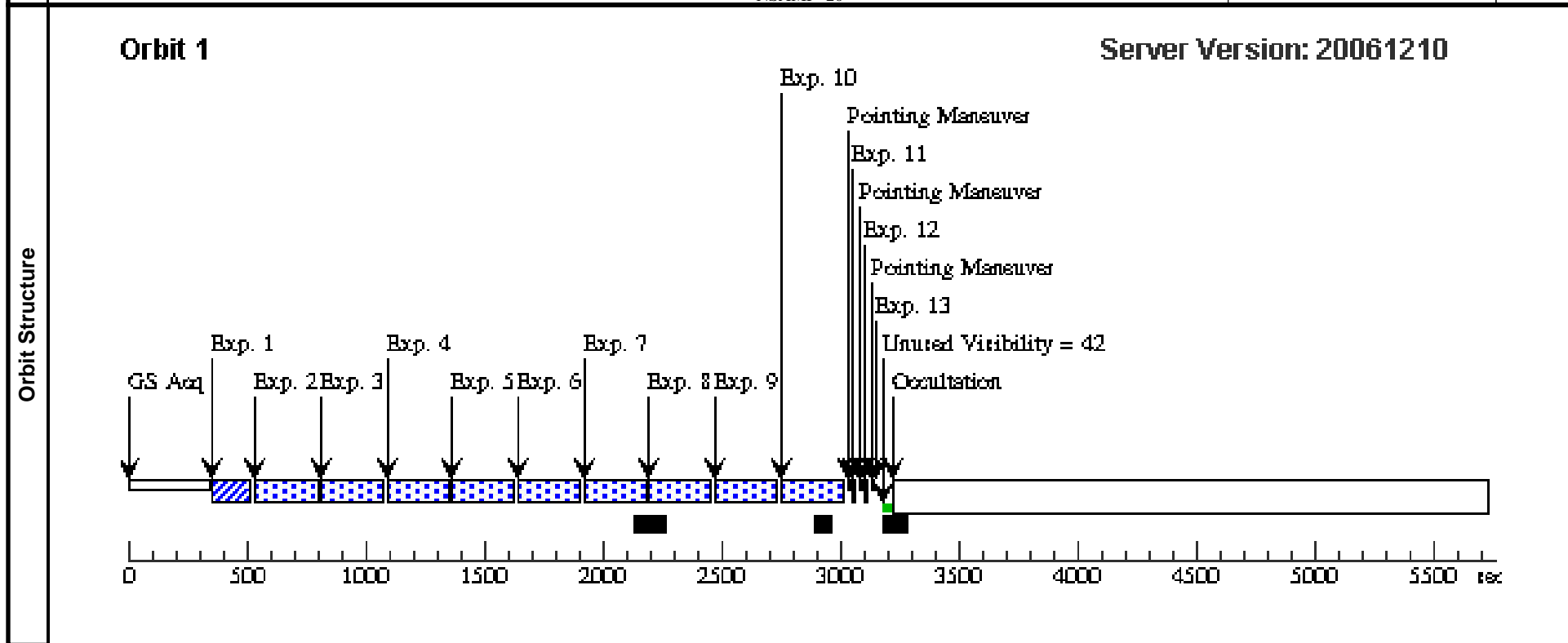
Proposal 10847 - Visit 70 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:33 GMT 2007

| Visit     | <b>Proposal 10847, Visit 70, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: PCS MODE FINE<br>Comments: HD 21447. This is the NICMOS Unpolarized Standard Star for all targets but AU MIC. H-K = + 0.16<br>There are NO orientatin or timing constraints on this observation. |                   |  |  |   |  |                              |                           |                         |       |
|-----------|--|-------------------|--|--|---|--|------------------------------|---------------------------|-------------------------|-------|
|           | Fixed Targets  | #                 | Name   | Target Coordinates   | Targ. Coord. Corrections  | Fluxes   | Miscellaneous                |                           |                         |       |
|           |  | (17)              | HD-21447-PSF<br>Alt Name1: GSC0307-00802<br>Alt Name2: BD+54-684 | RA: 03 30 0.1837 (52.5007654d)<br>Dec: +55 27 6.51 (55.45181d)<br>Equinox: J2000 | Proper Motion RA: -0.005335s/yr<br>Proper Motion Dec: -0.01177"/yr<br>Parallax: 0.01707"<br>Epoch of Position: 2000.0 | V=5.099<br>J = 4.717,<br>H = 5.060,<br>K = 4.996 | Reference Frame: ICRS        |                           |                         |       |
|           | Comments: Spectrum A1V<br>NIC2/POL* saturation in 0.06s in central PSF pixel   |                   |  |  |   |  |                              |                           |                         |       |
| Exposures | #  | Label             | Target   | Config,Mode,Aperture   | Spectral Els.   | Opt. Params.                                     | Special Reqs.                | Groups                    | Exp. Time/[Actual Dur.] | Orbit |
|           | 1  | (17) HD-21447-PSF | NIC2, ACQ, NIC2-ACQ  | F187N  |   |  | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-I<br>nt | 0.496 Secs<br>[==>]     | [1]   |
|           | 2  | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON                                  | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |
|           | 3  | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON                                  | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |
|           | 4  | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON                                  | POL240L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |
|           | 5  | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON                                  | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |
|           | 6  | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON                                  | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |
|           | 7  | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON                                  | POL240L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |
|           | 8  | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON                                  | POL0L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |
|           | 9  | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON                                  | POL120L  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12  |  |                              | Sequence 1-13 Non-I<br>nt | [==>]                   | [1]   |

Proposal 10847 - Visit 70 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

| #  | Label             | Target                          | Config,Mode,Aperture | Spectral Els.                    | Opt. Params.  | Special Reqs.         | Groups | Exp. Time/[Actual Dur.] | Orbit |
|--|-------------------|---------------------------------|----------------------|----------------------------------|---------------|-----------------------|--------|-------------------------|-------|
| 10   | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| 11   | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 2,0  | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                   |                                 |                      |                                  |               |                       |        |                         |       |
| 12   | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,0  | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                   |                                 |                      |                                  |               |                       |        |                         |       |
| 13   | (17) HD-21447-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L              | SAMP-SEQ=SCAM<br>RR;<br>NSAMP=20 | POS TARG 3,-1 | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |



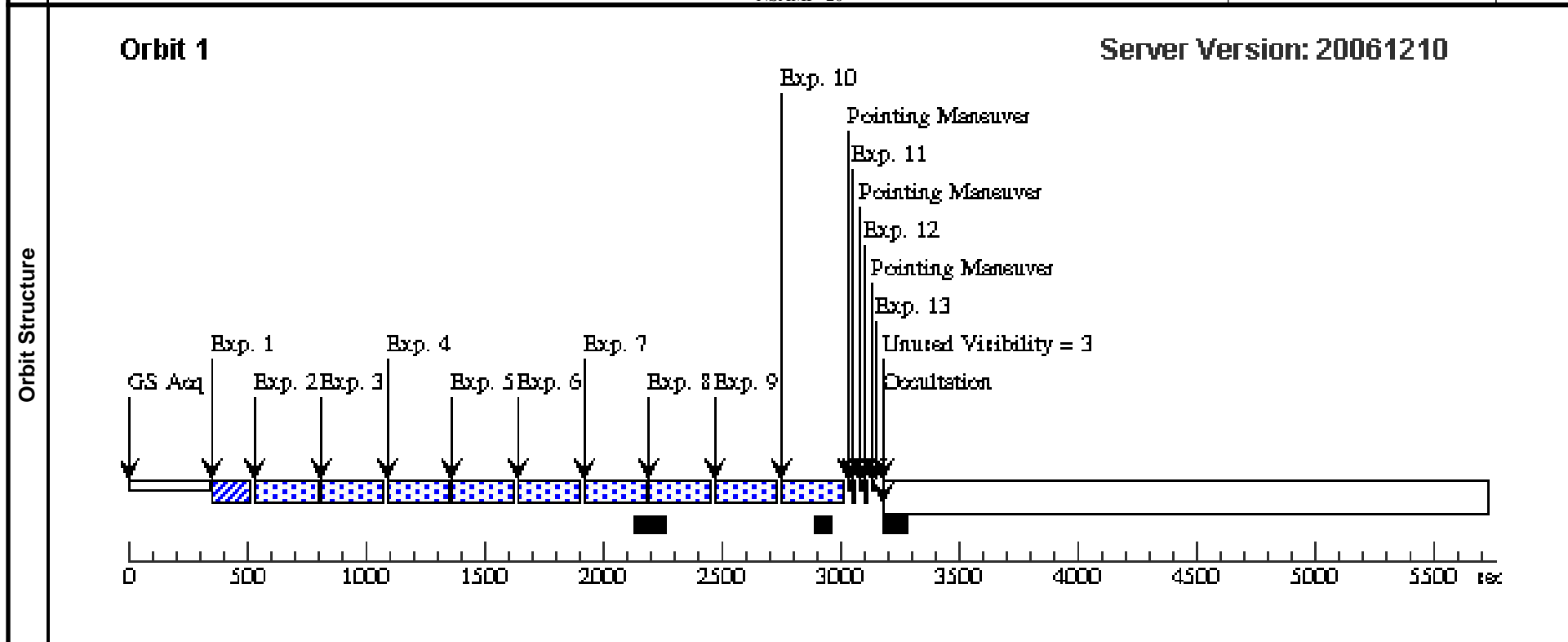
Proposal 10847 - Visit 71 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:33 GMT 2007

| Visit     | <b>Proposal 10847, Visit 71, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: NIC2<br>Special Requirements: PCS MODE FINE<br><i>Comments: GJ 786. This is the NICMOS Calibrator star for AU Mic. Used by Kalas in Cy 14 in the optical. H-K = +0.307</i><br><i>There are NO orientatin or timing constraints on this observation.</i><br><i>NOTE: We are investigating HD 202940 a possible alternate if required.</i>  |  |                                 |               |                                  |                              |                       |                         |        |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
|-----------|---|--|---------------------------------|---------------|----------------------------------|------------------------------|-----------------------|-------------------------|--------|-------------------------|----------------------------------|--------------------------------|-----------------|-----------------------|-------|---------------------|--------------------------------|---------------------------------|-----------------------|---------------------|-----|---|-----------------|---------------------------------|------------|--|----------------------------------|--|-----------------------|---------------------------|-----------|---|-----------------|---------------------------------|---------|--|----------------------------------|--|-----------------------|-------|-----|---|-----------------|---------------------------------|---------|--|----------------------------------|--|-----------------------|-------|-----|---|-----------------|---------------------------------|-------|--|----------------------------------|--|-----------------------|-------|-----|---|-----------------|---------------------------------|---------|--|----------------------------------|--|-----------------------|-------|-----|---|-----------------|---------------------------------|---------|--|----------------------------------|--|-----------------------|-------|-----|---|-----------------|---------------------------------|-------|--|----------------------------------|--|-----------------------|-------|-----|---|-----------------|---------------------------------|---------|--|----------------------------------|--|-----------------------|-------|-----|
|           | Fixed Targets   | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(18)</td> <td>GJ-784-PSF</td> <td>RA: 20 13 53.3963 (303.4724846d)</td> <td>Proper Motion RA: 0.073586s/yr</td> <td>V=7.97</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1: HD191849</td> <td>Dec: -45 09 50.47 (-45.16402d)</td> <td>Proper Motion Dec: -0.15954"/yr</td> <td>J = 5.122,</td> <td></td> </tr> <tr> <td></td> <td></td> <td>Equinox: J2000</td> <td>Parallax: 0.16118"</td> <td>H = 4.525,</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>Epoch of Position: 2000.0</td> <td>K = 4.281</td> <td></td> </tr> </tbody> </table> <p><i>Comments: Spectrum K7</i><br/> <i>NIC2/POL* saturation in 0.03s in central PSF pixel</i></p> | #                               | Name          | Target Coordinates               | Targ. Coord. Corrections     | Fluxes                | Miscellaneous           | (18)   | GJ-784-PSF              | RA: 20 13 53.3963 (303.4724846d) | Proper Motion RA: 0.073586s/yr | V=7.97          | Reference Frame: ICRS |       | Alt Name1: HD191849 | Dec: -45 09 50.47 (-45.16402d) | Proper Motion Dec: -0.15954"/yr | J = 5.122,            |                     |     |   | Equinox: J2000  | Parallax: 0.16118"              | H = 4.525, |  |                                  |  |                       | Epoch of Position: 2000.0 | K = 4.281 |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| #         | Name  | Target Coordinates   | Targ. Coord. Corrections        | Fluxes        | Miscellaneous                    |                              |                       |                         |        |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| (18)      | GJ-784-PSF  | RA: 20 13 53.3963 (303.4724846d)   | Proper Motion RA: 0.073586s/yr  | V=7.97        | Reference Frame: ICRS            |                              |                       |                         |        |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
|           | Alt Name1: HD191849   | Dec: -45 09 50.47 (-45.16402d)   | Proper Motion Dec: -0.15954"/yr | J = 5.122,    |                                  |                              |                       |                         |        |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
|           |   | Equinox: J2000   | Parallax: 0.16118"              | H = 4.525,    |                                  |                              |                       |                         |        |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
|           |   |  | Epoch of Position: 2000.0       | K = 4.281     |                                  |                              |                       |                         |        |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| Exposures | <table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(18) GJ-784-PSF</td> <td>NIC2, ACQ, NIC2-ACQ</td> <td>F187N</td> <td></td> <td></td> <td>GS ACQ SCENARI<br/>O BASE1TNS</td> <td>Sequence 1-13 Non-Int</td> <td>0.282 Secs<br/>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>(18) GJ-784-PSF</td> <td>NIC2, MULTIACCUM,<br/>NIC2-CORON</td> <td>POL0L</td> <td></td> <td>SAMP-SEQ=STEP6<br/>4;<br/>NSAMP=12</td> <td></td> <td>Sequence 1-13 Non-Int</td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>3</td> <td>(18) GJ-784-PSF</td> <td>NIC2, MULTIACCUM,<br/>NIC2-CORON</td> <td>POL120L</td> <td></td> <td>SAMP-SEQ=STEP6<br/>4;<br/>NSAMP=12</td> <td></td> <td>Sequence 1-13 Non-Int</td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>4</td> <td>(18) GJ-784-PSF</td> <td>NIC2, MULTIACCUM,<br/>NIC2-CORON</td> <td>POL240L</td> <td></td> <td>SAMP-SEQ=STEP6<br/>4;<br/>NSAMP=12</td> <td></td> <td>Sequence 1-13 Non-Int</td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>5</td> <td>(18) GJ-784-PSF</td> <td>NIC2, MULTIACCUM,<br/>NIC2-CORON</td> <td>POL0L</td> <td></td> <td>SAMP-SEQ=STEP6<br/>4;<br/>NSAMP=12</td> <td></td> <td>Sequence 1-13 Non-Int</td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>6</td> <td>(18) GJ-784-PSF</td> <td>NIC2, MULTIACCUM,<br/>NIC2-CORON</td> <td>POL120L</td> <td></td> <td>SAMP-SEQ=STEP6<br/>4;<br/>NSAMP=12</td> <td></td> <td>Sequence 1-13 Non-Int</td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>7</td> <td>(18) GJ-784-PSF</td> <td>NIC2, MULTIACCUM,<br/>NIC2-CORON</td> <td>POL240L</td> <td></td> <td>SAMP-SEQ=STEP6<br/>4;<br/>NSAMP=12</td> <td></td> <td>Sequence 1-13 Non-Int</td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>8</td> <td>(18) GJ-784-PSF</td> <td>NIC2, MULTIACCUM,<br/>NIC2-CORON</td> <td>POL0L</td> <td></td> <td>SAMP-SEQ=STEP6<br/>4;<br/>NSAMP=12</td> <td></td> <td>Sequence 1-13 Non-Int</td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>9</td> <td>(18) GJ-784-PSF</td> <td>NIC2, MULTIACCUM,<br/>NIC2-CORON</td> <td>POL120L</td> <td></td> <td>SAMP-SEQ=STEP6<br/>4;<br/>NSAMP=12</td> <td></td> <td>Sequence 1-13 Non-Int</td> <td>[==&gt;]</td> <td>[1]</td> </tr> </tbody> </table> | #  | Label                           | Target        | Config,Mode,Aperture             | Spectral Els.                | Opt. Params.          | Special Reqs.           | Groups | Exp. Time/[Actual Dur.] | Orbit                            | 1                              | (18) GJ-784-PSF | NIC2, ACQ, NIC2-ACQ   | F187N |                     |                                | GS ACQ SCENARI<br>O BASE1TNS    | Sequence 1-13 Non-Int | 0.282 Secs<br>[==>] | [1] | 2 | (18) GJ-784-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L      |  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |  | Sequence 1-13 Non-Int | [==>]                     | [1]       | 3 | (18) GJ-784-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L |  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |  | Sequence 1-13 Non-Int | [==>] | [1] | 4 | (18) GJ-784-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L |  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |  | Sequence 1-13 Non-Int | [==>] | [1] | 5 | (18) GJ-784-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L |  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |  | Sequence 1-13 Non-Int | [==>] | [1] | 6 | (18) GJ-784-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L |  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |  | Sequence 1-13 Non-Int | [==>] | [1] | 7 | (18) GJ-784-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL240L |  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |  | Sequence 1-13 Non-Int | [==>] | [1] | 8 | (18) GJ-784-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL0L |  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |  | Sequence 1-13 Non-Int | [==>] | [1] | 9 | (18) GJ-784-PSF | NIC2, MULTIACCUM,<br>NIC2-CORON | POL120L |  | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |  | Sequence 1-13 Non-Int | [==>] | [1] |
| #         | Label   | Target   | Config,Mode,Aperture            | Spectral Els. | Opt. Params.                     | Special Reqs.                | Groups                | Exp. Time/[Actual Dur.] | Orbit  |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| 1         | (18) GJ-784-PSF   | NIC2, ACQ, NIC2-ACQ  | F187N                           |               |                                  | GS ACQ SCENARI<br>O BASE1TNS | Sequence 1-13 Non-Int | 0.282 Secs<br>[==>]     | [1]    |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| 2         | (18) GJ-784-PSF   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L                           |               | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]    |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| 3         | (18) GJ-784-PSF   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L                         |               | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]    |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| 4         | (18) GJ-784-PSF   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L                         |               | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]    |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| 5         | (18) GJ-784-PSF   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L                           |               | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]    |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| 6         | (18) GJ-784-PSF   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L                         |               | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]    |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| 7         | (18) GJ-784-PSF   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL240L                         |               | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]    |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| 8         | (18) GJ-784-PSF   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL0L                           |               | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]    |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |
| 9         | (18) GJ-784-PSF   | NIC2, MULTIACCUM,<br>NIC2-CORON  | POL120L                         |               | SAMP-SEQ=STEP6<br>4;<br>NSAMP=12 |                              | Sequence 1-13 Non-Int | [==>]                   | [1]    |                         |                                  |                                |                 |                       |       |                     |                                |                                 |                       |                     |     |   |                 |                                 |            |  |                                  |  |                       |                           |           |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |   |                 |                                 |       |  |                                  |  |                       |       |     |   |                 |                                 |         |  |                                  |  |                       |       |     |

Proposal 10847 - Visit 71 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

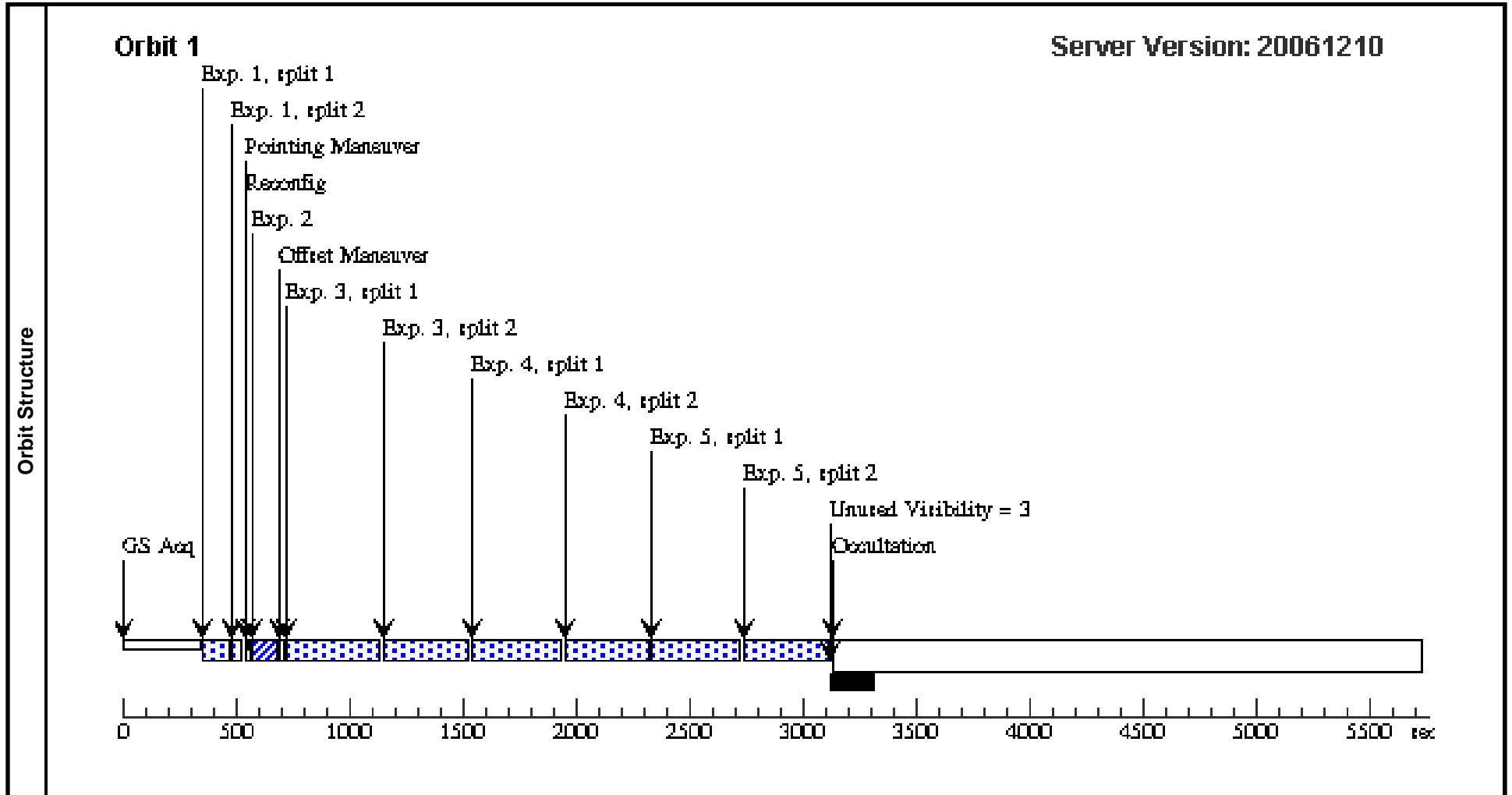
| #  | Label           | Target                       | Config,Mode,Aperture | Spectral Els.                 | Opt. Params.  | Special Reqs.         | Groups | Exp. Time/[Actual Dur.] | Orbit |
|--|-----------------|------------------------------|----------------------|-------------------------------|---------------|-----------------------|--------|-------------------------|-------|
| 10   | (18) GJ-784-PSF | NIC2, MULTIACCUM, NIC2-CORON | POL240L              | SAMP-SEQ=STEP6 4;<br>NSAMP=12 |               | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| 11   | (18) GJ-784-PSF | NIC2, MULTIACCUM, NIC2-CORON | POL240L              | SAMP-SEQ=SCAM RR;<br>NSAMP=20 | POS TARG 2,0  | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                 |                              |                      |                               |               |                       |        |                         |       |
| 12   | (18) GJ-784-PSF | NIC2, MULTIACCUM, NIC2-CORON | POL240L              | SAMP-SEQ=SCAM RR;<br>NSAMP=20 | POS TARG 3,0  | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |
| <i>Comments: Out of Hole image to establish stellar POL* flux density on PSF wings</i> |                 |                              |                      |                               |               |                       |        |                         |       |
| 13   | (18) GJ-784-PSF | NIC2, MULTIACCUM, NIC2-CORON | POL240L              | SAMP-SEQ=SCAM RR;<br>NSAMP=20 | POS TARG 3,-1 | Sequence 1-13 Non-Int | [==>]  | [1]                     |       |



Proposal 10847 - Visit 81 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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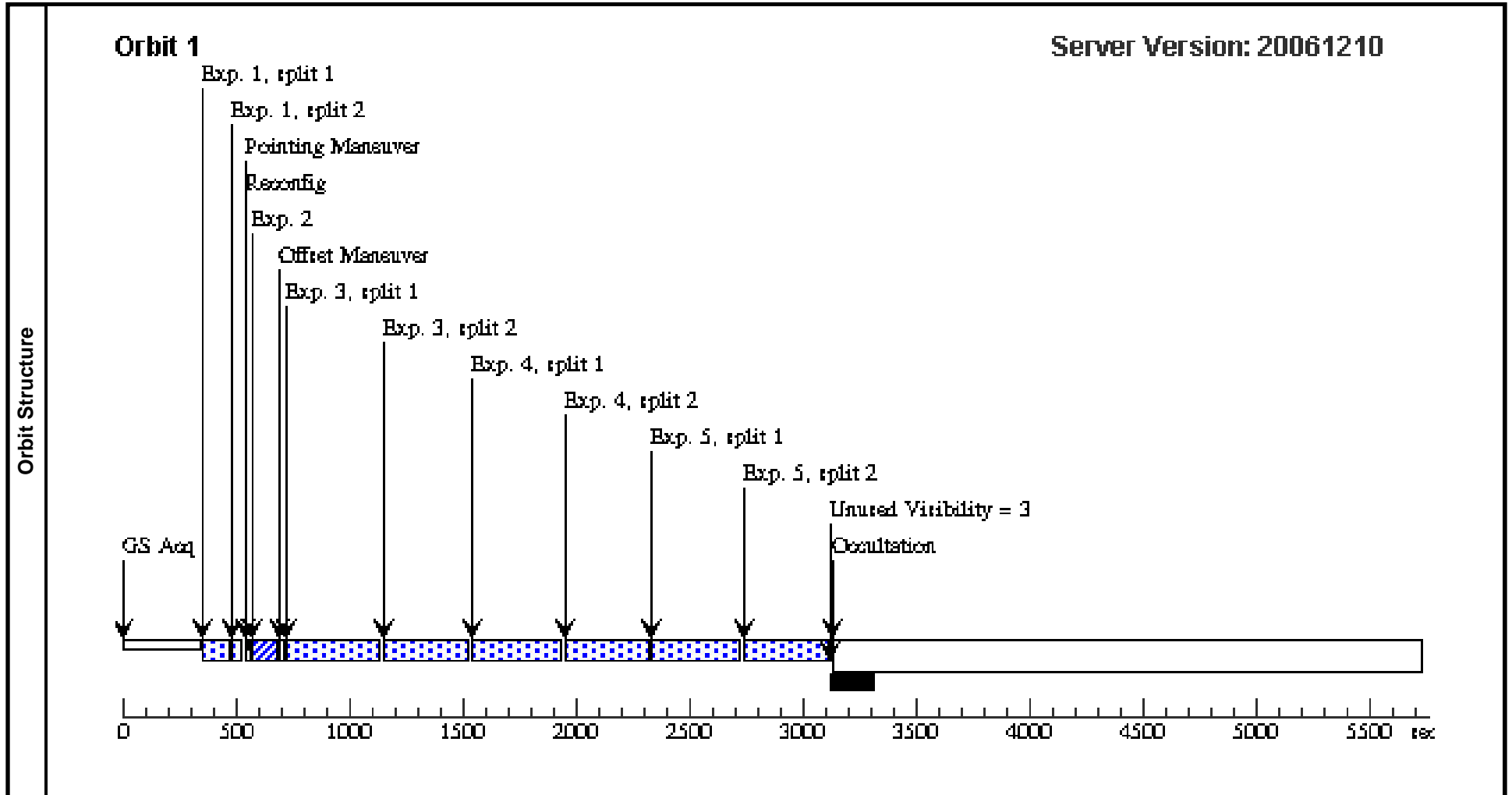
| Visit   |   | <b>Proposal 10847, Visit 81, scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/HRC<br>Special Requirements: ORIENT 260.0D TO 270.0 D; GROUP 81,82,83 WITHIN 2.1 Orbits |                    |   |   |   |                              |        |  |       |
|---|---|--|--------------------|---|---|---|------------------------------|--------|--|-------|
| Fixed Targets   | # | Name   | Target Coordinates | Targ. Coord. Corrections  | Fluxes  | Miscellaneous                                   |                              |        |  |       |
|   |   | (12)   | HD-32297           | RA: 05 02 27.4366 (75.6143192d)<br>Dec: +07 27 39.68 (7.46102d)<br>Equinox: J2000 | Proper Motion RA: 0.00045s/yr<br>Proper Motion Dec: -0.02332"/yr<br>Parallax: 0.00892"<br>Epoch of Position: 2000.0 | V=8.13<br>J = 7.687,<br>H = 7.624,<br>K = 7.594 | Reference Frame: ICRS        |        |  |       |
| <i>Comments: NIC2/POL* saturation in 0.51s in central PSF pixel</i> |   |  |                    |   |   |   |                              |        |  |       |
| Exposures   | # | Label  | Target             | Config,Mode,Aperture  | Spectral Els.   | Opt. Params.                                    | Special Reqs.                | Groups | Exp. Time/[Actual Dur.]                        | Orbit |
|   | 1 | hd32297-sh<br>ort-direct   | (12) HD-32297      | ACS/HRC, ACCUM, HRC   | F606W   | CR-SPLIT=2;<br>GAIN=4                           | GS ACQ SCENARI<br>O BASE1TNS |        | 0.2 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]   | [1]   |
|   | 2 | acq  | (12) HD-32297      | ACS/HRC, ACQ, HRC-ACQ   | F658N   |   |                              |        | 1.2 Secs<br>[==>]                              | [1]   |
|   | 3 | long-pol0  | (12) HD-32297      | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL0V  | CR-SPLIT=2;<br>GAIN=2                           | USE OFFSET 81                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|   | 4 | long-pol60   | (12) HD-32297      | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL60V   | CR-SPLIT=2;<br>GAIN=2                           | USE OFFSET 81                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|   | 5 | long-pol120  | (12) HD-32297      | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL120V  | CR-SPLIT=2;<br>GAIN=2                           | USE OFFSET 81                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |



Proposal 10847 - Visit 82 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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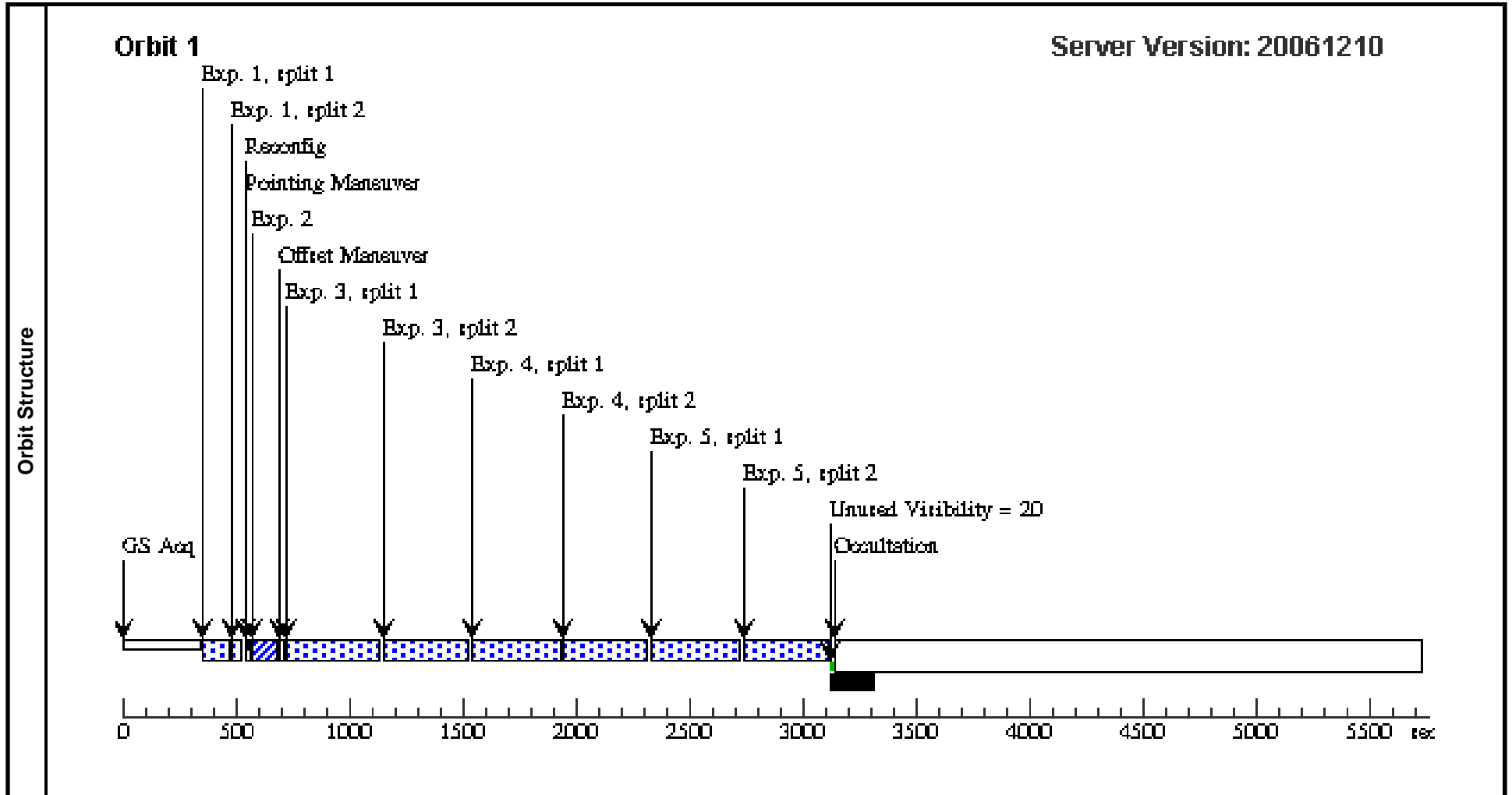
| Visit     | <b>Proposal 10847, Visit 82, scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/HRC<br>Special Requirements: ORIENT 23.0D TO 29.9D FROM 81 |                          |   |   |   |                       |                              |        |  |       |
|-----------|---|--------------------------|---|---|---|-----------------------|------------------------------|--------|--|-------|
|           | Fixed Targets   | #                        | Name  | Target Coordinates  | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |        |  |       |
|           | (12)  | HD-32297                 | RA: 05 02 27.4366 (75.6143192d)<br>Dec: +07 27 39.68 (7.46102d)<br>Equinox: J2000 | Proper Motion RA: 0.00045s/yr<br>Proper Motion Dec: -0.02332"/yr<br>Parallax: 0.00892"<br>Epoch of Position: 2000.0 | V=8.13<br>J = 7.687,<br>H = 7.624,<br>K = 7.594 | Reference Frame: ICRS |                              |        |  |       |
|           | <i>Comments: NIC2/POL* saturation in 0.51s in central PSF pixel</i>   |                          |   |   |   |                       |                              |        |  |       |
| Exposures | #   | Label                    | Target  | Config,Mode,Aperture  | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups | Exp. Time/[Actual Dur.]                        | Orbit |
|           | 1   | hd32297-sh<br>ort-direct | (12) HD-32297   | ACS/HRC, ACCUM, HRC   | F606W   | CR-SPLIT=2;<br>GAIN=4 | GS ACQ SCENARI<br>O BASE1TNS |        | 0.2 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]   | [1]   |
|           | 2   | acq                      | (12) HD-32297   | ACS/HRC, ACQ, HRC-ACQ   | F658N   |                       |                              |        | 1.2 Secs<br>[==>]                              | [1]   |
|           | 3   | long-pol0                | (12) HD-32297   | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL0V                                  | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 82                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 4   | long-pol60               | (12) HD-32297   | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL60V                                 | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 82                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 5   | long-pol120              | (12) HD-32297   | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL120V                                | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 82                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |



Proposal 10847 - Visit 83 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

Fri Jan 19 02:22:34 GMT 2007

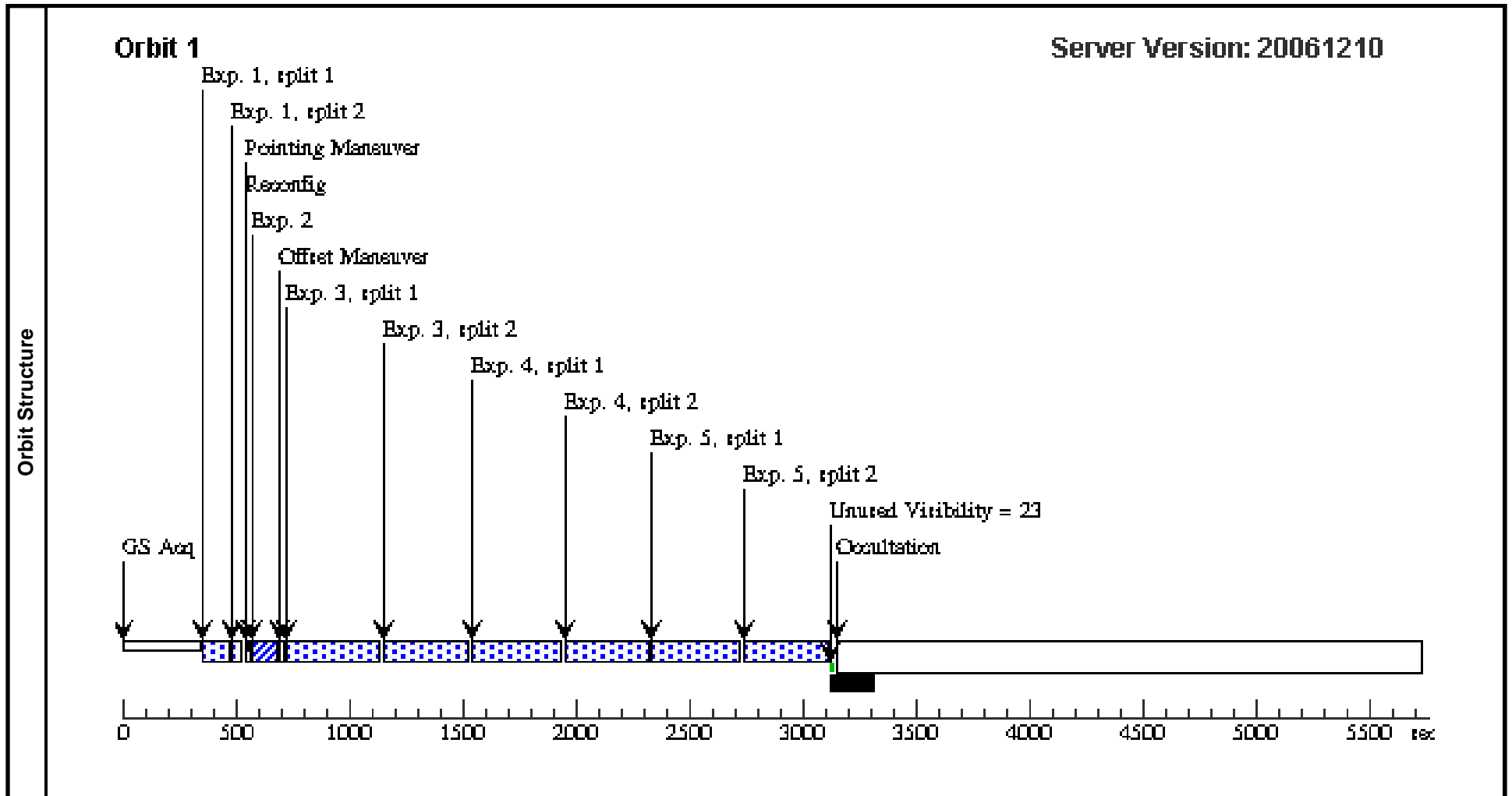
| Visit     | <b>Proposal 10847, Visit 83, scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/HRC<br>Special Requirements: (none) |                          |   |  |                          |                       |                              |        |  |       |
|-----------|--|--------------------------|---|--|--------------------------|-----------------------|------------------------------|--------|--|-------|
|           | Fixed Targets  | #                        | Name  | Target Coordinates   | Targ. Coord. Corrections | Fluxes                | Miscellaneous                |        |  |       |
|           | (20)   | HD-18978-PSF             | RA: 03 02 23.5002 (45.5979175d)<br>Dec: -23 37 28.09 (-23.62447d)<br>Equinox: J2000 | Proper Motion RA: -0.01062s/yr<br>Proper Motion Dec: -0.05576"/yr<br>Parallax: 0.03785"<br>Epoch of Position: 2000.0 | V=4.096                  | Reference Frame: ICRS |                              |        |  |       |
|           | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>   |                          |   |  |                          |                       |                              |        |  |       |
| Exposures | #  | Label                    | Target  | Config,Mode,Aperture   | Spectral Els.            | Opt. Params.          | Special Reqs.                | Groups | Exp. Time/[Actual Dur.]                        | Orbit |
|           | 1  | hd18978-sh<br>ort-direct | (20) HD-18978-PSF   | ACS/HRC, ACCUM, HRC  | F606W                    | CR-SPLIT=2;<br>GAIN=4 | GS ACQ SCENARI<br>O BASE1TNS |        | 0.2 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]   | [1]   |
|           | 2  | acq                      | (20) HD-18978-PSF   | ACS/HRC, ACQ, HRC-ACQ  | F658N                    |                       |                              |        | 0.1 Secs<br>[==>]                              | [1]   |
|           | 3  | long-pol0                | (20) HD-18978-PSF   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL0V           | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 83                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 4  | long-pol60               | (20) HD-18978-PSF   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL60V          | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 83                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 5  | long-pol120              | (20) HD-18978-PSF   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL120V         | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 83                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |



Proposal 10847 - Visit 84 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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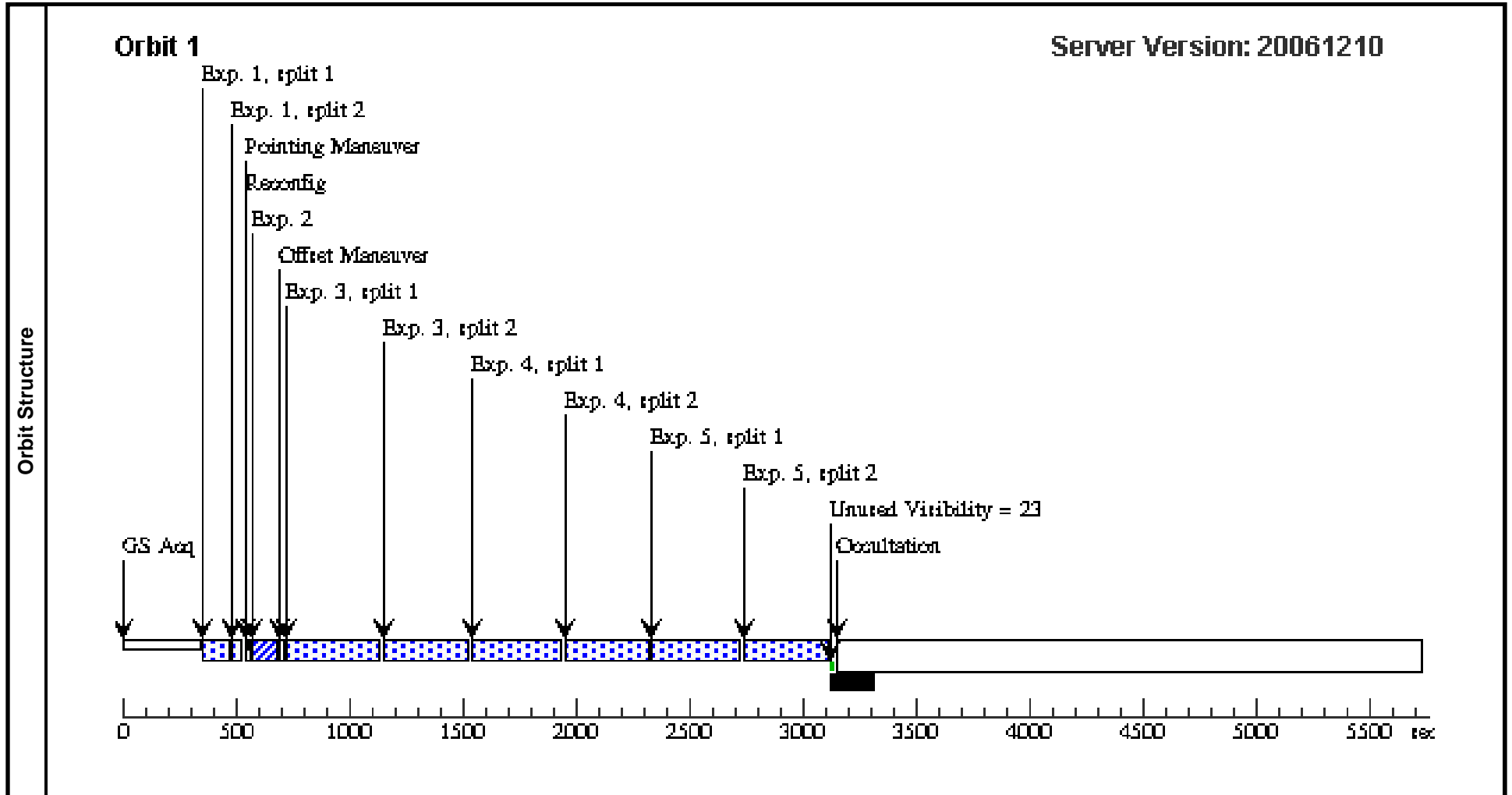
| Visit     | <b>Proposal 10847, Visit 84, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/HRC<br>Special Requirements: ORIENT 0.0D TO 25.0 D; ORIENT 105.0D TO 200.0 D; ORIENT 280.0D TO 359.0 D; GROUP 84,85,86 WITHIN 2.3 Orbits |                          |  |   |  |                       |                              |        |  |       |
|-----------|--|--------------------------|--|---|--|-----------------------|------------------------------|--------|--|-------|
|           | Fixed Targets  | #                        | Name   | Target Coordinates  | Targ. Coord. Corrections                   | Fluxes                | Miscellaneous                |        |  |       |
|           | (16)   | HD-61005                 | RA: 07 35 47.4617 (113.9477571d)<br>Dec: -32 12 14.04 (-32.20390d)<br>Equinox: J2000 | Proper Motion RA: -0.004s/yr<br>Proper Motion Dec: 0.075"/yr<br>Parallax: 0.029"<br>Epoch of Position: 2000.0 | V=8.22<br>J=6.90,<br>H = 6.58,<br>K = 6.46 | Reference Frame: ICRS |                              |        |  |       |
|           | <i>Comments: NIC2/POL* saturation in 0.19s in central PSF pixel</i>  |                          |  |   |  |                       |                              |        |  |       |
| Exposures | #  | Label                    | Target   | Config,Mode,Aperture  | Spectral Els.                              | Opt. Params.          | Special Reqs.                | Groups | Exp. Time/[Actual Dur.]                        | Orbit |
|           | 1  | hd61005-sh<br>ort-direct | (16) HD-61005  | ACS/HRC, ACCUM, HRC   | F606W                                      | CR-SPLIT=2;<br>GAIN=4 | GS ACQ SCENARI<br>O BASE1TNS |        | 0.2 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]   | [1]   |
|           | 2  | acq                      | (16) HD-61005  | ACS/HRC, ACQ, HRC-ACQ   | F658N                                      |                       |                              |        | 1.2 Secs<br>[==>]                              | [1]   |
|           | 3  | long-pol0                | (16) HD-61005  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL0V                             | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 84                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 4  | long-pol60               | (16) HD-61005  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL60V                            | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 84                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 5  | long-pol120              | (16) HD-61005  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL120V                           | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 84                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |



Proposal 10847 - Visit 85 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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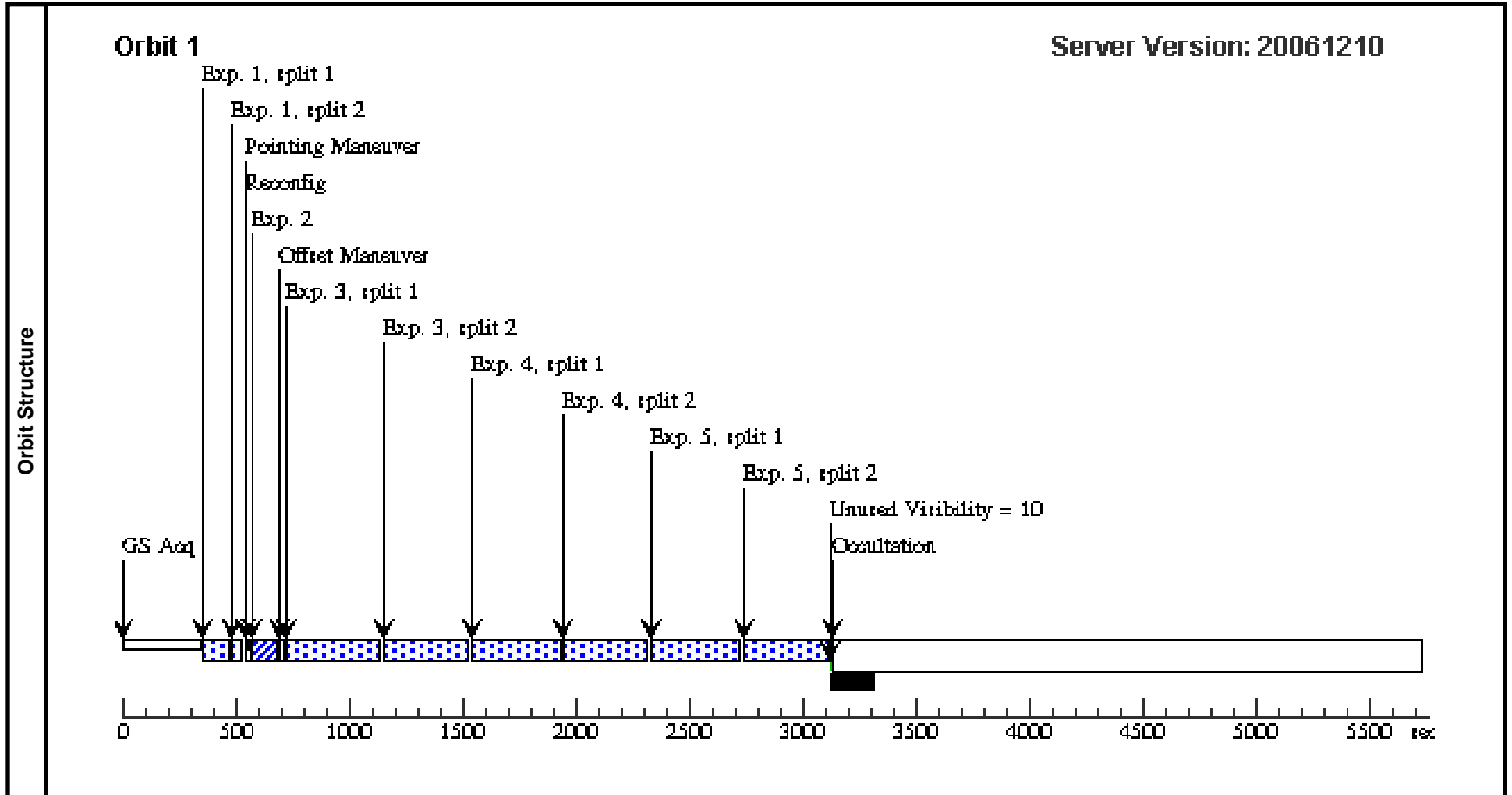
| Visit     | <b>Proposal 10847, Visit 85, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/HRC<br>Special Requirements: ORIENT 23.0D TO 29.9D FROM 84 |                          |  |   |  |                       |                              |        |  |       |
|-----------|--|--------------------------|--|---|--|-----------------------|------------------------------|--------|--|-------|
|           | Fixed Targets  | #                        | Name   | Target Coordinates  | Targ. Coord. Corrections                   | Fluxes                | Miscellaneous                |        |  |       |
|           | (16)   | HD-61005                 | RA: 07 35 47.4617 (113.9477571d)<br>Dec: -32 12 14.04 (-32.20390d)<br>Equinox: J2000 | Proper Motion RA: -0.004s/yr<br>Proper Motion Dec: 0.075"/yr<br>Parallax: 0.029"<br>Epoch of Position: 2000.0 | V=8.22<br>J=6.90,<br>H = 6.58,<br>K = 6.46 | Reference Frame: ICRS |                              |        |  |       |
|           | <i>Comments: NIC2/POL* saturation in 0.19s in central PSF pixel</i>  |                          |  |   |  |                       |                              |        |  |       |
| Exposures | #  | Label                    | Target   | Config,Mode,Aperture  | Spectral Els.                              | Opt. Params.          | Special Reqs.                | Groups | Exp. Time/[Actual Dur.]                        | Orbit |
|           | 1  | hd61005-sh<br>ort-direct | (16) HD-61005  | ACS/HRC, ACCUM, HRC   | F606W                                      | CR-SPLIT=2;<br>GAIN=4 | GS ACQ SCENARI<br>O BASE1TNS |        | 0.2 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]   | [1]   |
|           | 2  | acq                      | (16) HD-61005  | ACS/HRC, ACQ, HRC-ACQ   | F658N                                      |                       |                              |        | 1.2 Secs<br>[==>]                              | [1]   |
|           | 3  | long-pol0                | (16) HD-61005  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL0V                             | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 85                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 4  | long-pol60               | (16) HD-61005  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL60V                            | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 85                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 5  | long-pol120              | (16) HD-61005  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL120V                           | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 85                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |



Proposal 10847 - Visit 86 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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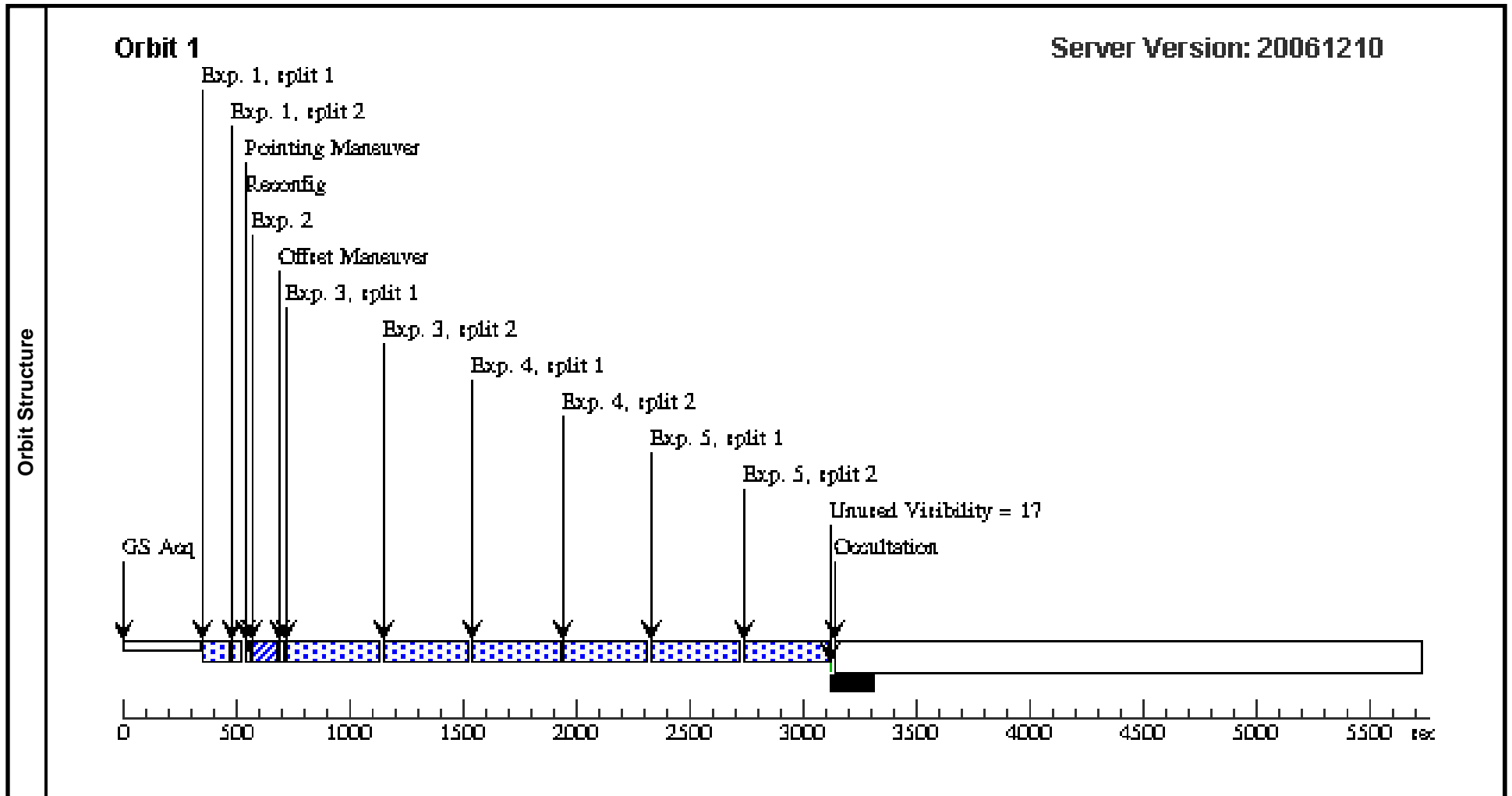
| Visit     | <b>Proposal 10847, Visit 86, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/HRC<br>Special Requirements: (none) |                           |   |   |                          |                       |                              |        |  |       |
|-----------|---|---------------------------|---|---|--------------------------|-----------------------|------------------------------|--------|--|-------|
|           | Fixed Targets   | #                         | Name  | Target Coordinates  | Targ. Coord. Corrections | Fluxes                | Miscellaneous                |        |  |       |
|           | (21)  | HD-117176-PSF             | RA: 13 28 25.8094 (202.1075392d)<br>Dec: +13 46 43.63 (13.77879d)<br>Equinox: J2000 | Proper Motion RA: -0.0162s/yr<br>Proper Motion Dec: -0.577"/yr<br>Parallax: 0.05522"<br>Epoch of Position: 2000.0 | V=5.0                    | Reference Frame: ICRS |                              |        |  |       |
|           | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>  |                           |   |   |                          |                       |                              |        |  |       |
| Exposures | #   | Label                     | Target  | Config,Mode,Aperture  | Spectral Els.            | Opt. Params.          | Special Reqs.                | Groups | Exp. Time/[Actual Dur.]                        | Orbit |
|           | 1   | hd117176-s<br>hort-direct | (21) HD-117176-PS<br>F  | ACS/HRC, ACCUM, HRC   | F606W                    | CR-SPLIT=2;<br>GAIN=4 | GS ACQ SCENARI<br>O BASE1TNS |        | 0.2 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]   | [1]   |
|           | 2   | acq                       | (21) HD-117176-PS<br>F  | ACS/HRC, ACQ, HRC-ACQ   | F658N                    |                       |                              |        | 0.1 Secs<br>[==>]                              | [1]   |
|           | 3   | long-pol0                 | (21) HD-117176-PS<br>F  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL0V           | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 86                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 4   | long-pol60                | (21) HD-117176-PS<br>F  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL60V          | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 86                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 5   | long-pol120               | (21) HD-117176-PS<br>F  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL120V         | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 86                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |



Proposal 10847 - Visit 87 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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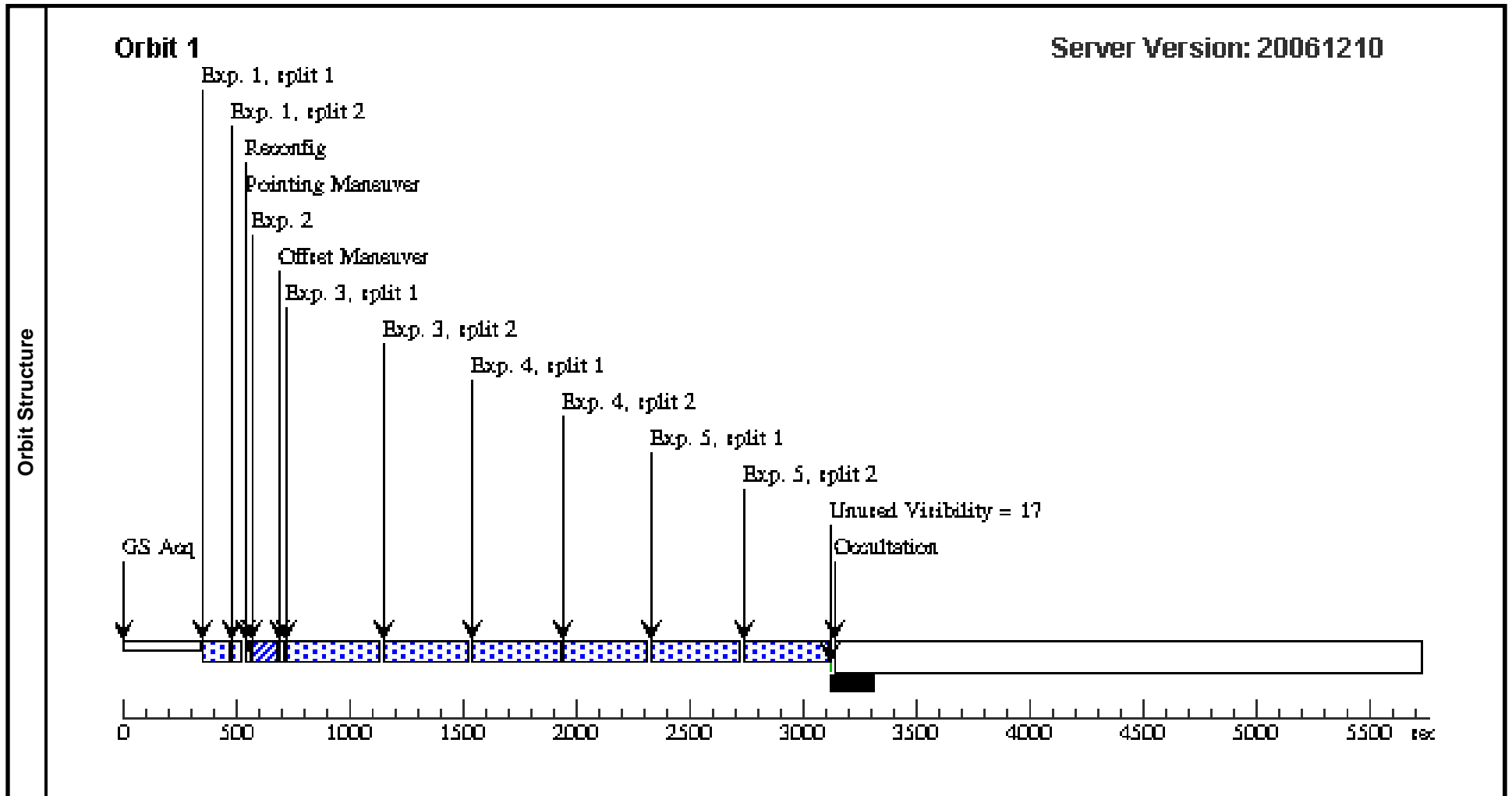
| Visit     | <b>Proposal 10847, Visit 87, scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/HRC<br>Special Requirements: ORIENT 0.0D TO 40.0 D; ORIENT 110.0D TO 359.0 D; GROUP 87,88,89 WITHIN 2.3 Orbits |                           |  |  |   |                       |                              |        |  |       |
|-----------|---|---------------------------|--|--|---|-----------------------|------------------------------|--------|--|-------|
|           | Fixed Targets   | #                         | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |        |  |       |
|           | (15)  | HD-107146                 | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |        |  |       |
|           | <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i>   |                           |  |  |   |                       |                              |        |  |       |
| Exposures | #   | Label                     | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups | Exp. Time/[Actual Dur.]                        | Orbit |
|           | 1   | hd107146-s<br>hort-direct | (15) HD-107146   | ACS/HRC, ACCUM, HRC  | F606W   |                       | GS ACQ SCENARI<br>O BASE1TNS |        | 0.2 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]   | [1]   |
|           | 2   | acq                       | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       |                              |        | 0.6 Secs<br>[==>]                              | [1]   |
|           | 3   | long-pol0                 | (15) HD-107146   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL0V                                  | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 87                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 4   | long-pol60                | (15) HD-107146   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL60V                                 | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 87                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 5   | long-pol120               | (15) HD-107146   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL120V                                | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 87                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |



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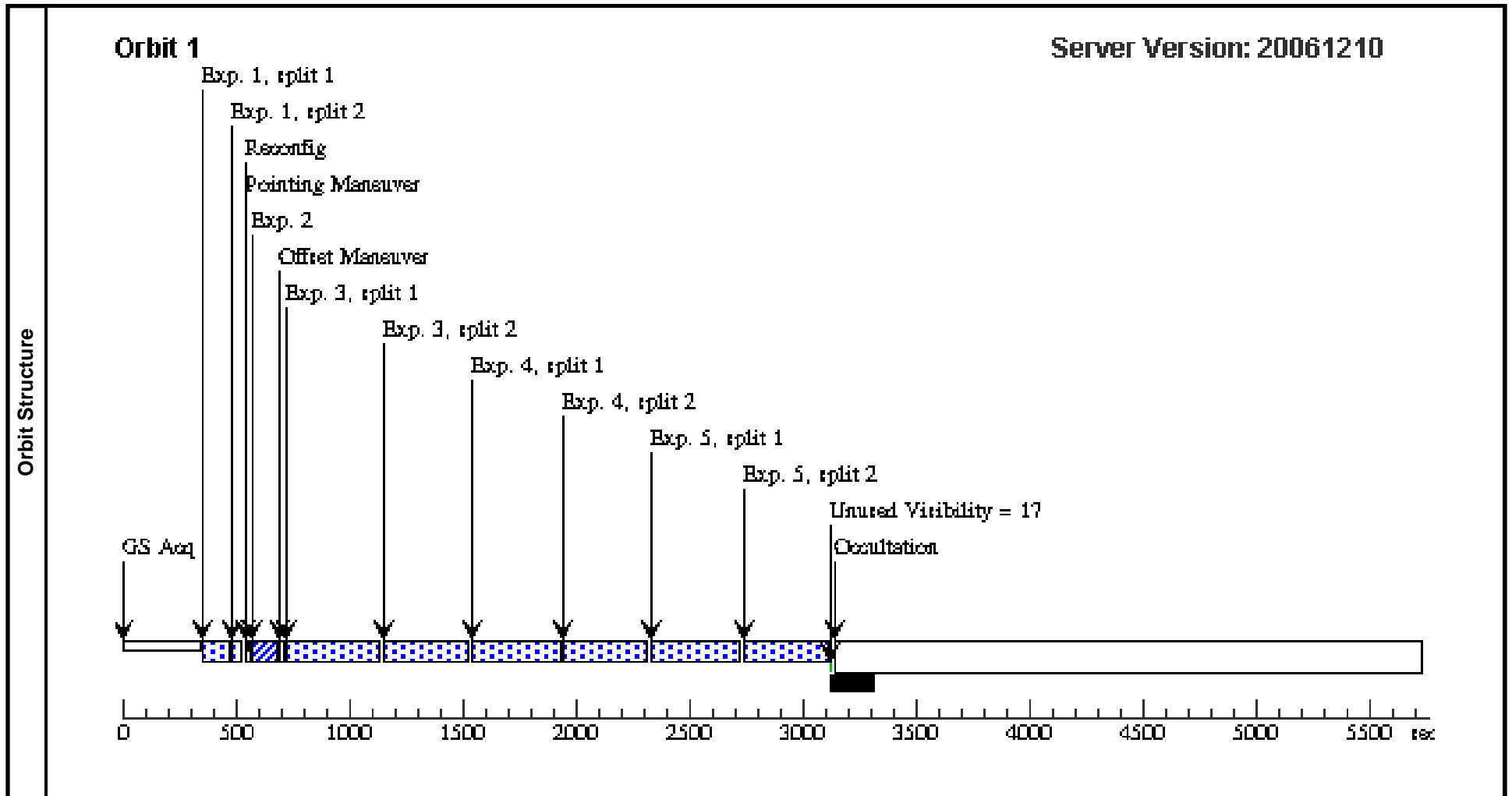
| Visit     | <b>Proposal 10847, Visit 88, scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/HRC<br>Special Requirements: ORIENT 14.0D TO 15.0D FROM 87 |                           |  |  |   |                       |                              |        |  |       |
|-----------|---|---------------------------|--|--|---|-----------------------|------------------------------|--------|--|-------|
|           | Fixed Targets   | #                         | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |        |  |       |
|           | (15)  | HD-107146                 | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |        |  |       |
|           | <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i>   |                           |  |  |   |                       |                              |        |  |       |
| Exposures | #   | Label                     | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups | Exp. Time/[Actual Dur.]                        | Orbit |
|           | 1   | hd107146-s<br>hort-direct | (15) HD-107146   | ACS/HRC, ACCUM, HRC  | F606W   |                       | GS ACQ SCENARI<br>O BASE1TNS |        | 0.2 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]   | [1]   |
|           | 2   | acq                       | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       |                              |        | 0.6 Secs<br>[==>]                              | [1]   |
|           | 3   | long-pol0                 | (15) HD-107146   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL0V                                  | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 88                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 4   | long-pol60                | (15) HD-107146   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL60V                                 | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 88                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 5   | long-pol120               | (15) HD-107146   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL120V                                | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 88                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |



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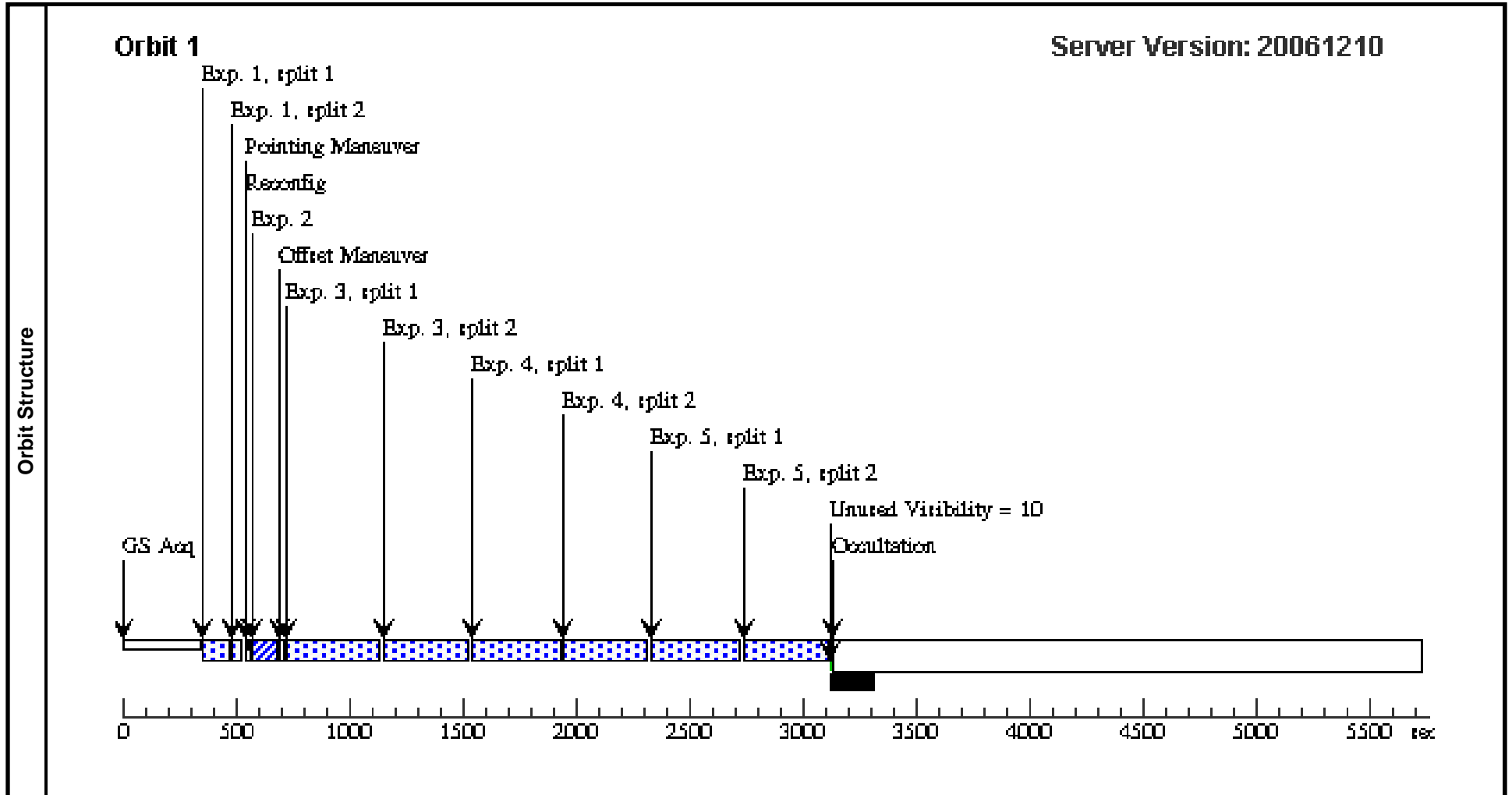
| Visit     | <b>Proposal 10847, Visit 89, scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/HRC<br>Special Requirements: ORIENT 11.0D TO 12.0D FROM 88 |                           |  |  |   |                       |                              |        |  |       |
|-----------|---|---------------------------|--|--|---|-----------------------|------------------------------|--------|--|-------|
|           | Fixed Targets   | #                         | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |        |  |       |
|           | (15)  | HD-107146                 | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |        |  |       |
|           | <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i>   |                           |  |  |   |                       |                              |        |  |       |
| Exposures | #   | Label                     | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups | Exp. Time/[Actual Dur.]                        | Orbit |
|           | 1   | hd107146-s<br>hort-direct | (15) HD-107146   | ACS/HRC, ACCUM, HRC  | F606W   |                       | GS ACQ SCENARI<br>O BASE1TNS |        | 0.2 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]   | [1]   |
|           | 2   | acq                       | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       |                              |        | 0.6 Secs<br>[==>]                              | [1]   |
|           | 3   | long-pol0                 | (15) HD-107146   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL0V                                  | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 89                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 4   | long-pol60                | (15) HD-107146   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL60V                                 | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 89                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 5   | long-pol120               | (15) HD-107146   | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL120V                                | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 89                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |



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| Visit     | <b>Proposal 10847, Visit 90, completed</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: ACS/HRC<br>Special Requirements: (none) |                          |  |   |                          |                       |                              |        |  |       |
|-----------|---|--------------------------|--|---|--------------------------|-----------------------|------------------------------|--------|--|-------|
|           | Fixed Targets   | #                        | Name   | Target Coordinates  | Targ. Coord. Corrections | Fluxes                | Miscellaneous                |        |  |       |
|           | (22)  | HD-82943-PSF             | RA: 09 34 50.7361 (143.7114004d)<br>Dec: -12 07 46.37 (-12.12955d)<br>Equinox: J2000 | Proper Motion RA: 0.00016s/yr<br>Proper Motion Dec: -0.17405"/yr<br>Parallax: 0.03642"<br>Epoch of Position: 2000.0 | V=6.539                  | Reference Frame: ICRS |                              |        |  |       |
|           | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>  |                          |  |   |                          |                       |                              |        |  |       |
| Exposures | #   | Label                    | Target   | Config,Mode,Aperture  | Spectral Els.            | Opt. Params.          | Special Reqs.                | Groups | Exp. Time/[Actual Dur.]                        | Orbit |
|           | 1   | hd82943-sh<br>ort-direct | (22) HD-82943-PSF  | ACS/HRC, ACCUM, HRC   | F606W                    | CR-SPLIT=2;<br>GAIN=4 | GS ACQ SCENARI<br>O BASE1TNS |        | 0.2 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]   | [1]   |
|           | 2   | acq                      | (22) HD-82943-PSF  | ACS/HRC, ACQ, HRC-ACQ   | F658N                    |                       |                              |        | 0.5 Secs<br>[==>]                              | [1]   |
|           | 3   | long-pol0                | (22) HD-82943-PSF  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL0V           | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 90                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 4   | long-pol60               | (22) HD-82943-PSF  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL60V          | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 90                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
|           | 5   | long-pol120              | (22) HD-82943-PSF  | ACS/HRC, ACCUM,<br>HRC-CORON1.8   | F606W<br>POL120V         | CR-SPLIT=2;<br>GAIN=2 | USE OFFSET 90                |        | 680.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |



Proposal 10847 - Visit 91 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|   |   |                |  |  |   |                       |                              |   |                         |       |  |
|---|---|----------------|--|--|---|-----------------------|------------------------------|---|-------------------------|-------|--|
| <b>Visit</b>  | Proposal 10847, Visit 91, implementation<br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/HRC<br>Special Requirements: ORIENT 0.0D TO 40.0 D; ORIENT 110.0D TO 359.0 D; GROUP 91,92,93 WITHIN 2.5 Orbits           |                |  |  |   |                       |                              |   |                         |       |  |
|   | <b>Fixed Targets</b>  | #              | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |   |                         |       |  |
| (15)  |   | HD-107146      | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |   |                         |       |  |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |   |                |  |  |   |                       |                              |   |                         |       |  |
| <b>Exposures</b>  | #   | Label          | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups  | Exp. Time/[Actual Dur.] | Orbit |  |
|   | 1   | acq            | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       | GS ACQ SCENARI<br>O BASE1TNS |   | 0.6 Secs<br>[==>]       | [1]   |  |
| 2   | long-pol0   | (15) HD-107146 | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL0V   | CR-SPLIT=3;<br>GAIN=2                           | USE OFFSET 91         |                              | 2370.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]                     |       |  |
| <b>Orbit Structure</b>  | Orbit 1 <span style="float: right;">Server Version: 20061210</span>   |                |  |  |   |                       |                              |   |                         |       |  |
|   | <p>Timeline labels: GS Acq, Offset Manuever, Exp. 1, Exp. 2, split 1, Exp. 2, split 2, Exp. 2, split 3, Occultation, Unused Visibility = 23</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec</p> |                |  |  |   |                       |                              |   |                         |       |  |

Proposal 10847 - Visit 92 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|   |  |                |  |  |   |                       |                              |   |                         |       |  |
|---|--|----------------|--|--|---|-----------------------|------------------------------|---|-------------------------|-------|--|
| <b>Visit</b>  | Proposal 10847, Visit 92, implementation<br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/HRC<br>Special Requirements: SAME ORIENT AS 91  |                |  |  |   |                       |                              |   |                         |       |  |
|   | <b>Fixed Targets</b>   | #              | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |   |                         |       |  |
| (15)  |  | HD-107146      | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |   |                         |       |  |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |  |                |  |  |   |                       |                              |   |                         |       |  |
| <b>Exposures</b>  | #  | Label          | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups  | Exp. Time/[Actual Dur.] | Orbit |  |
|   | 1  | acq            | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       | GS ACQ SCENARI<br>O BASE1TNS |   | 0.6 Secs<br>[==>]       | [1]   |  |
| 2   | long-pol60   | (15) HD-107146 | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL60V  | CR-SPLIT=3;<br>GAIN=2                           | USE OFFSET 92         |                              | 2370.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]                     |       |  |
| <b>Orbit Structure</b>  | <p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20061210</b></span></p> <p>Timeline labels: GS Acq, Offset Manuever, Exp. 1, Exp. 2, split 1, Exp. 2, split 2, Exp. 2, split 3, Occultation, Unused Viribility = 22</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec</p> |                |  |  |   |                       |                              |   |                         |       |  |

Proposal 10847 - Visit 93 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|   |  |                |  |  |   |                       |                              |   |                         |       |  |
|---|--|----------------|--|--|---|-----------------------|------------------------------|---|-------------------------|-------|--|
| <b>Visit</b>  | Proposal 10847, Visit 93, implementation<br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/HRC<br>Special Requirements: SAME ORIENT AS 91  |                |  |  |   |                       |                              |   |                         |       |  |
|   | <b>Fixed Targets</b>   | #              | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |   |                         |       |  |
| (15)  |  | HD-107146      | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |   |                         |       |  |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |  |                |  |  |   |                       |                              |   |                         |       |  |
| <b>Exposures</b>  | #  | Label          | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups  | Exp. Time/[Actual Dur.] | Orbit |  |
|   | 1  | acq            | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       | GS ACQ SCENARI<br>O BASE1TNS |   | 0.6 Secs<br>[==>]       | [1]   |  |
| 2   | long-pol120  | (15) HD-107146 | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL120V   | CR-SPLIT=3;<br>GAIN=2                           | USE OFFSET 93         |                              | 2370.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]                     |       |  |
| <b>Orbit Structure</b>  | <p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20061210</b></span></p> <p>Timeline labels: GS Acq, Offset Manuever, Exp. 1, Exp. 2, split 1, Exp. 2, split 2, Exp. 2, split 3, Occultation, Unused Visibility = 18</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec</p> |                |  |  |   |                       |                              |   |                         |       |  |

Proposal 10847 - Visit 94 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|   |  |                |  |  |   |                       |                              |   |                         |       |  |
|---|--|----------------|--|--|---|-----------------------|------------------------------|---|-------------------------|-------|--|
| <b>Visit</b>  | <b>Proposal 10847, Visit 94, implementation</b><br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/HRC<br>Special Requirements: ORIENT 14.0D TO 15.0D FROM 91; GROUP 94,95,96 WITHIN 2.5 Orbits   |                |  |  |   |                       |                              |   |                         |       |  |
|   | <b>Fixed Targets</b>   | #              | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |   |                         |       |  |
| (15)  |  | HD-107146      | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |   |                         |       |  |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |  |                |  |  |   |                       |                              |   |                         |       |  |
| <b>Exposures</b>  | #  | Label          | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups  | Exp. Time/[Actual Dur.] | Orbit |  |
|   | 1  | acq            | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       | GS ACQ SCENARI<br>O BASE1TNS |   | 0.6 Secs<br>[==>]       | [1]   |  |
| 2   | long-pol0  | (15) HD-107146 | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL0V   | CR-SPLIT=3;<br>GAIN=2                           | USE OFFSET 94         |                              | 2370.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]                     |       |  |
| <b>Orbit Structure</b>  | <p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20061210</b></span></p> <p>Timeline labels: GS Acq, Offset Manuever, Exp. 1, Exp. 2, split 1, Exp. 2, split 2, Exp. 2, split 3, Occultation, Unused Viribility = 23</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec</p> |                |  |  |   |                       |                              |   |                         |       |  |
|   |  |                |  |  |   |                       |                              |   |                         |       |  |

Proposal 10847 - Visit 95 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|   |  |                |  |  |   |                       |                              |   |                         |       |
|---|--|----------------|--|--|---|-----------------------|------------------------------|---|-------------------------|-------|
| <b>Visit</b>  | Proposal 10847, Visit 95, implementation<br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/HRC<br>Special Requirements: SAME ORIENT AS 94  |                |  |  |   |                       |                              |   |                         |       |
|   | <b>Fixed Targets</b>   | #              | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |   |                         |       |
| (15)  |  | HD-107146      | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |   |                         |       |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |  |                |  |  |   |                       |                              |   |                         |       |
| <b>Exposures</b>  | #  | Label          | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups  | Exp. Time/[Actual Dur.] | Orbit |
|   | 1  | acq            | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       | GS ACQ SCENARI<br>O BASE1TNS |   | 0.6 Secs<br>[==>]       | [1]   |
| 2   | long-pol60   | (15) HD-107146 | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL60V  | CR-SPLIT=3;<br>GAIN=2                           | USE OFFSET 95         |                              | 2370.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]                     |       |
| <b>Orbit Structure</b>  | <p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20061210</b></span></p> <p>Timeline labels: GS Acq, Offset Manuever, Exp. 1, Exp. 2, split 1, Exp. 2, split 2, Exp. 2, split 3, Occultation, Unused Viribility = 22</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec</p> |                |  |  |   |                       |                              |   |                         |       |
|   |  |                |  |  |   |                       |                              |   |                         |       |

Proposal 10847 - Visit 96 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|   |  |                |  |  |   |                       |                              |   |                         |       |
|---|--|----------------|--|--|---|-----------------------|------------------------------|---|-------------------------|-------|
| <b>Visit</b>  | Proposal 10847, Visit 96, implementation<br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/HRC<br>Special Requirements: SAME ORIENT AS 94  |                |  |  |   |                       |                              |   |                         |       |
|   | <b>Fixed Targets</b>   | #              | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |   |                         |       |
| (15)  |  | HD-107146      | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |   |                         |       |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |  |                |  |  |   |                       |                              |   |                         |       |
| <b>Exposures</b>  | #  | Label          | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups  | Exp. Time/[Actual Dur.] | Orbit |
|   | 1  | acq            | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       | GS ACQ SCENARI<br>O BASE1TNS |   | 0.6 Secs<br>[==>]       | [1]   |
| 2   | long-pol120  | (15) HD-107146 | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL120V   | CR-SPLIT=3;<br>GAIN=2                           | USE OFFSET 96         |                              | 2370.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]                     |       |
| <b>Orbit Structure</b>  | <p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20061210</b></span></p> <p>Timeline labels: GS Acq, Exp. 1, Offset Manuever, Exp. 2, split 1, Exp. 2, split 2, Exp. 2, split 3, Occultation, Unused Viribility = 18</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec</p> |                |  |  |   |                       |                              |   |                         |       |

Proposal 10847 - Visit 97 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|   |  |                |  |  |   |                       |                              |   |                         |       |
|---|--|----------------|--|--|---|-----------------------|------------------------------|---|-------------------------|-------|
| <b>Visit</b>  | Proposal 10847, Visit 97, implementation<br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/HRC<br>Special Requirements: ORIENT 14.0D TO 15.0D FROM 94; GROUP 97,98,99 WITHIN 2.5 Orbits  |                |  |  |   |                       |                              |   |                         |       |
|   | <b>Fixed Targets</b>   | #              | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |   |                         |       |
| (15)  |  | HD-107146      | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |   |                         |       |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |  |                |  |  |   |                       |                              |   |                         |       |
| <b>Exposures</b>  | #  | Label          | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups  | Exp. Time/[Actual Dur.] | Orbit |
|   | 1  | acq            | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       | GS ACQ SCENARI<br>O BASE1TNS |   | 0.6 Secs<br>[==>]       | [1]   |
| 2   | long-pol0  | (15) HD-107146 | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL0V   | CR-SPLIT=3;<br>GAIN=2                           | USE OFFSET 97         |                              | 2370.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]                     |       |
| <b>Orbit Structure</b>  | <p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20061210</b></span></p> <p>Timeline labels: GS Acq, Exp. 1, Offset Manuever, Exp. 2, split 1, Exp. 2, split 2, Exp. 2, split 3, Occultation, Unused Visibility = 23</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec</p> |                |  |  |   |                       |                              |   |                         |       |
|   |  |                |  |  |   |                       |                              |   |                         |       |

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|   |  |                |  |  |   |                       |                              |   |                         |       |
|---|--|----------------|--|--|---|-----------------------|------------------------------|---|-------------------------|-------|
| <b>Visit</b>  | Proposal 10847, Visit 98, implementation<br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/HRC<br>Special Requirements: SAME ORIENT AS 97  |                |  |  |   |                       |                              |   |                         |       |
|   | <b>Fixed Targets</b>   | #              | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |   |                         |       |
| (15)  |  | HD-107146      | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |   |                         |       |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |  |                |  |  |   |                       |                              |   |                         |       |
| <b>Exposures</b>  | #  | Label          | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups  | Exp. Time/[Actual Dur.] | Orbit |
|   | 1  | acq            | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       | GS ACQ SCENARI<br>O BASE1TNS |   | 0.6 Secs<br>[==>]       | [1]   |
| 2   | long-pol60   | (15) HD-107146 | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL60V  | CR-SPLIT=3;<br>GAIN=2                           | USE OFFSET 98         |                              | 2370.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]                     |       |
| <b>Orbit Structure</b>  | <p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20061210</b></span></p> <p>Timeline labels: GS Acq, Offset Manuever, Exp. 1, Exp. 2, split 1, Exp. 2, split 2, Exp. 2, split 3, Occultation, Unused Viribility = 22</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec</p> |                |  |  |   |                       |                              |   |                         |       |

Proposal 10847 - Visit 99 - Coronagraphic Polarimetry of HST-Resolved Debris Disks

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|   |   |                |  |  |   |                       |                              |   |                         |       |
|---|---|----------------|--|--|---|-----------------------|------------------------------|---|-------------------------|-------|
| <b>Visit</b>  | Proposal 10847, Visit 99, implementation<br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: ACS/HRC<br>Special Requirements: SAME ORIENT AS 97   |                |  |  |   |                       |                              |   |                         |       |
|   | <b>Fixed Targets</b>  | #              | Name   | Target Coordinates   | Targ. Coord. Corrections                        | Fluxes                | Miscellaneous                |   |                         |       |
| (15)  |   | HD-107146      | RA: 12 19 6.5015 (184.7770896d)<br>Dec: +16 32 53.87 (16.54830d)<br>Equinox: J2000 | Proper Motion RA: -0.01222s/yr<br>Proper Motion Dec: -0.14828"/yr<br>Parallax: 0.03507"<br>Epoch of Position: 2000.0 | V=7.07<br>J = 5.867,<br>H = 5.611,<br>K = 5.540 | Reference Frame: ICRS |                              |   |                         |       |
| <i>Comments: NIC2/POL* saturation in 0.08s in central PSF pixel</i> |   |                |  |  |   |                       |                              |   |                         |       |
| <b>Exposures</b>  | #   | Label          | Target   | Config,Mode,Aperture   | Spectral Els.                                   | Opt. Params.          | Special Reqs.                | Groups  | Exp. Time/[Actual Dur.] | Orbit |
|   | 1   | acq            | (15) HD-107146   | ACS/HRC, ACQ, HRC-ACQ  | F658N   |                       | GS ACQ SCENARI<br>O BASE1TNS |   | 0.6 Secs<br>[==>]       | [1]   |
| 2   | long-pol120   | (15) HD-107146 | ACS/HRC, ACCUM,<br>HRC-CORON1.8  | F606W<br>POL120V   | CR-SPLIT=3;<br>GAIN=2                           | USE OFFSET 99         |                              | 2370.0 Secs<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]                     |       |
| <b>Orbit Structure</b>  | <b>Orbit 1</b> <span style="float: right;">Server Version: 20061210</span>  |                |  |  |   |                       |                              |   |                         |       |
|   | <p>The diagram shows the timing of observations for Orbit 1. The x-axis represents time in seconds from 0 to 5500. Key events are marked with arrows: GS Acq at ~100s, Offset Manuever at ~400s, Exp. 1 at ~450s, Exp. 2 split 1 at ~550s, Exp. 2 split 2 at ~1450s, Exp. 2 split 3 at ~2300s, and Occultation at ~3150s. A shaded region from 400s to 3150s indicates the observation period. A label 'Unused Visibility = 18' is shown after the occultation.</p> |                |  |  |   |                       |                              |   |                         |       |