# 16447 - Confirming a Wide-Separation Directly-Imaged Infant Planet around a Young, Dusty Star

Cycle: 28, Proposal Category: GO

(Availability Mode: AVAILABLE)

**INVESTIGATORS**



| *Name* | *Institution* | *E-Mail* |
|---|---|---|
| **Dr. Thayne M. Currie (PI) (Contact)** | **Eureka Scientific Inc.** | **thayne.currie@gmail.com** |
| Dr. John P. Wisniewski (CoI) | University of Oklahoma Norman Campus | wisniewski@ou.edu |
| Dr. Glenn Schneider (CoI) (Contact) | University of Arizona | gschneider@as.arizona.edu |
| Dr. Olivier Guyon (CoI) | Research Corporation of the University of Hawaii | guyon@naoj.org |
| Prof. Motohide Tamura (CoI) | National Astronomical Observatory of Japan (NAOJ) | motohide.tamura@nao.ac.jp |
| Dr. Carol A. Grady (CoI) | Eureka Scientific Inc. | cagrady@comcast.net |
| Dr. Takayuki Muto (CoI) | Kogakuin University | muto@cc.kogakuin.ac.jp |
| Dr. Ruobing Dong (CoI) (CSA Member) | University of Victoria | rbdong@uvic.ca |
| Dr. Wladimir Lyra (CoI) | New Mexico State University | wlyra@nmsu.edu |
| Dr. Julien Lozi (CoI) | National Astronomical Obs of Japan (NAOJ), Subaru Telescope | lozi@naoj.org |



**VISITS**

| *Visit* | *Targets used in Visit* | *Configurations used in Visit* | *Orbits Used* | *Last Orbit Planner Run* | *OP Current with Visit?* |
|---|---|---|---|---|---|
| 01 | (1) HD31293 | STIS/CCD | 1 | 15-Feb-2021 08:00:23.0 | yes |
| 02 | (1) HD31293 | STIS/CCD | 1 | 15-Feb-2021 08:00:27.0 | yes |
| 03 | (2) HD21062-CALIB | STIS/CCD | 1 | 15-Feb-2021 08:00:32.0 | yes |
| 04 | (1) HD31293 | STIS/CCD | 1 | 15-Feb-2021 08:00:37.0 | yes |

| *Visit* | *Targets used in Visit* | *Configurations used in Visit* | *Orbits Used* | *Last Orbit Planner Run* | *OP Current with Visit?* |
|---|---|---|---|---|---|
| 11 | (1) HD31293 | STIS/CCD | 1 | 15-Feb-2021 08:00:41.0 | yes |
| 12 | (1) HD31293 | STIS/CCD | 1 | 15-Feb-2021 08:00:46.0 | yes |
| 13 | (2) HD21062-CALIB | STIS/CCD | 1 | 15-Feb-2021 08:00:50.0 | yes |
| 14 | (1) HD31293 | STIS/CCD | 1 | 15-Feb-2021 08:00:55.0 | yes |
| 15 | (2) HD21062-CALIB | STIS/CCD | 1 | 15-Feb-2021 08:00:59.0 | yes |
| 16 | (1) HD31293 | STIS/CCD | 1 | 15-Feb-2021 08:01:03.0 | yes |

10 Total Orbits Used

**ABSTRACT**

Clone from Phase 1: This 8-orbit mid-cycle proposal requests HST/STIS coronagraphic imaging to confirm a candidate wide-separation protoplanet seen around AB Aur. Near infrared data sets obtained over multiple epochs but only fully analyzed in May 2020 suggest a protoplanet whose colors/spectrum are distinguishable from scattered starlight and whose astrometry hints at orbital motion. Optical imaging roughly contemporaneous with recently scheduled ground-based extreme AO follow-up observations in Fall 2020/Winter 2021 are required. Only optical imaging can conclusively rule out the alternate hypothesis: that this signal is a static disk feature. STIS is the only suitable optical high-contrast imaging instrument: its ability to yield unbiased detections of disks and point sources is unmatched by any ground or space-based facility.

The analysis will decisively point to one of 3 interpretations: 1) thermal emission from a protoplanet formed by disk instability, 2) an orbiting disk region heated and puffed up by an unseen planet, or 3) a non-rotating disk feature whose pathological colors and near-IR variability can be mistaken for an orbiting protoplanet. Our STIS imaging multi-roll reference star differential imaging will easily achieve the required contrast to distinguish these scenarios.

If interpretations 1) or 2) are supported, this candidate would be HST's first bona fide exoplanet direct imaging discovery, given the recent controversy over Fomalhaut b. Moreover, if 1) is correct, the program rewrites the field's understanding of planet formation, decisively demonstrating the existence of multiple mechanisms for forming jovian planets: core accretion AND disk instability.

**OBSERVING DESCRIPTION**

***Critical Scheduling Note ***

Note to PC/CS: Due to the geometrical (orientation) restrictions for these observations, the only suitable orientation windows are very quickly approaching, and we really need to know ASAP how that can fit into the existing or soon to be built LRP (long range plan) and conform for those specific orient-constrained dates that guide stars are available.

---

***Overall Description***

**Visit-Set Organization** -- Our program consists of TWO Visit-Sets of 4 orbits each (for a total of 8 orbits in the entire program). The 4 orbits within a single Visit-Set consist of THREE target visits and ONE interleaved PSF Calibrator visit. The 4 orbits within a single Visit-Set must be continuous. However, the two Visit-Sets need not be continuous with one another (i.e. Visit-Set #2 can happen months after Visit-Set #1).

**Aperture (Placement of the star in each observation)** -- After target acquisition, the star should be nominally placed at the "Bar10/Lower-Left occulter position, IWA=0.270" " offset from (hereafter, Bar10/LL). Bar10/LL is defined in Table 3 of Schneider et al. (2017, Instrument Science Report 2017-03). Quantitatively, Bar10/LL is equal to the original Bar10 Reference Position PLUS an additional "Pos Targ" offset of [-1.20088",-1.27353"]. Around this "nominal" Bar10/LL position, our exposures consist of a 3-point dither pattern: nominal ("center"), +1/4th pixel, -1/4th pixel as labeled in the "Sequences" for each orbit.

**ORIENT constraints** -- For Visit-Set 1, we define an ABSOLUTE ORIENT constraint for the first orbit (Set1-ORBIT 1) of 110-140 deg and a RELATIVE ORIENT constraint for other target orbits in Visit-Set 1 of: +4 degrees (Set1-Orbit 2) and +6 to +10 degrees (Set1-Orbit 4). For Visit-Set 2, we define an ABSOLUTE ORIENT constraint for the first orbit (Set2-ORBIT 1) of 30-70 deg and a RELATIVE ORIENT constraint for other target orbits in Visit-Set 2 of: -4 degrees (Set2-Orbit 2) and -6 to -10 degrees (Set2-Orbit 4).

**Strategy/Rationale for Bar10/LL position and ORIENT constraints** -- Our observations must leave unobscured a region between rho = 0.4" and 0.7" at a sky position angle of ~180 degrees (i.e. nearly due-south on the sky). We hereafter refer to this region as the 'region of interest' or "ROI". This means the ROI must not be blocked by occulters nor obscured by the diffraction spikes. We define "obscured by diffraction spikes" as being within 20 deg of the angles 45, 135, 225, and 315 on the detector. Bar10/LL can allow access to a >180 deg region exterior to 0.27". The ABSOLUTE ORIENT angle ranges for Visit-Set 1, Orbit 1 and Visit-Set 2, Orbit 1 allow the ROI to be 1. free from occulter obscuration and 2. free

from diffraction spike obscuration. The RELATIVE ORIENTS for subsequent Orbits in each Visit-Set likewise allow the ROI to be 1. free from occulter obscuration and 2. free from diffraction spike obscuration.

In the above paragraph and absolutely critical to the success of our program is the assumption that northPA= ORIENT-45, where positive northPA values increase as true north moves *clockwise* from the detector +Y axis. Thus, for example, ORIENT=135 means northPA=90 deg: the true-north direction would lie along a perfectly horizontal line to the right from BAR10/LL. Our ROI would lie exactly to the left of BAR10/LL occulter position: with the same y-coordinate on the detector but a smaller x-coordinate value (by ~11.8 pixels). Our CS at STScI for this program has verified that this understanding of the STIS coordinate system is the correct one.

Note to PC/CS: we would like confirmation that again we have the above understanding about the STIS northPA correct and that our ORIENT constrainsts coupled with the BAR10/LL position is would in fact leave our ROI free from obscuration by the occulter and diffraction spikes.

**Expected Visibility window** - APT tells us that we have the following approximate visibility windows. For VISIT-SET1: Dec 7-16 2020; Jan 2-5, 8-11 2021; For VISIT-SET2: Feb 7-Mar 6 2021 (with a few breaks).
---

***Preferences/Clarifications***

**RELATIVE ORIENTS** - For both VISIT-SETS we have an absolute ORIENT constraint and then RELATIVE ORIENT constraints with some ranges. Where scheduling flexibility is allowed, we prefer to MAXIMIZE the RELATIVE ORIENTS in each VISIT-SET. For instance, for VISIT-SET1, ORIENTS of 110 (orbit 1), 114 (orbit 2), and 120 (orbit 4) [i.e. +4 and +10 relative angle offsets] is PREFERABLE to ORIENTS of 110 (orbit 1), 114 (orbit 2), and 116 (orbit 4) [i.e. +4 and +6 relative angle offsets].

---
***Other Notes***

Note to PC/CS: Commensurate with our use of the BAR10 occulter (POS TARGed to the LL corner) we need to recenter and appropriately size for our target region the readout subarray to be used. Thus we invoke the "AVAILABLE" mode parameters CENTERAXIS2 and SIZEAXIS2 set appropriately. We have set the proposal mode to "AVAILABLE" to turn off APTs otherwise spurious and prolific warnings of improper placed

subarrays in SUPPORTED mode. We understand implementation of AVAILABLE mode requires the concurrence of our PC, which we request to be approved here.

Note that this combination of parameters has been routinely used with the BAR5/10 aperture since it was added to those known by APT (e.g., GO proposals 13786, 15219, 16205, etc.) to specify the detector-based readout area.

NOTE TO PC: These observations require Two-FGS fine-lock guiding.

## Visit

**Proposal 16447, ABAUR-SET1-ORBIT1 (01), completed** Mon Feb 15 13:01:05 GMT 2021

**Diagnostic Status: No Diagnostics**

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 110D TO 150 D

*Comments: This is the first of three AB Aur single-orbit visits that comprise, with an interleaved PSF orbit, a contiguous 4-orbit visit set (visits 01 - 04).*

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | HD31293 | RA: 04 55 45.8460 (73.9410250d) | Proper Motion RA: 3.926 mas/yr | V=7.05 | Reference Frame: ICRS |
| | Alt Name1: AB-AUR | Dec: +30 33 4.29 (30.55119d) | Proper Motion Dec: -24.112 mas/yr | B = 7.16, | |
| | | Equinox: J2000 | Epoch of Position: 2015.5 | R = 6.96, | |
| | | | | G = 7.08 | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Spec = A0Ve, distance = 162.9 pc, B- V = +0.11*
*Category=STAR*
*Description=[A0-A3 V-IV, HERBIG AE/BE]*

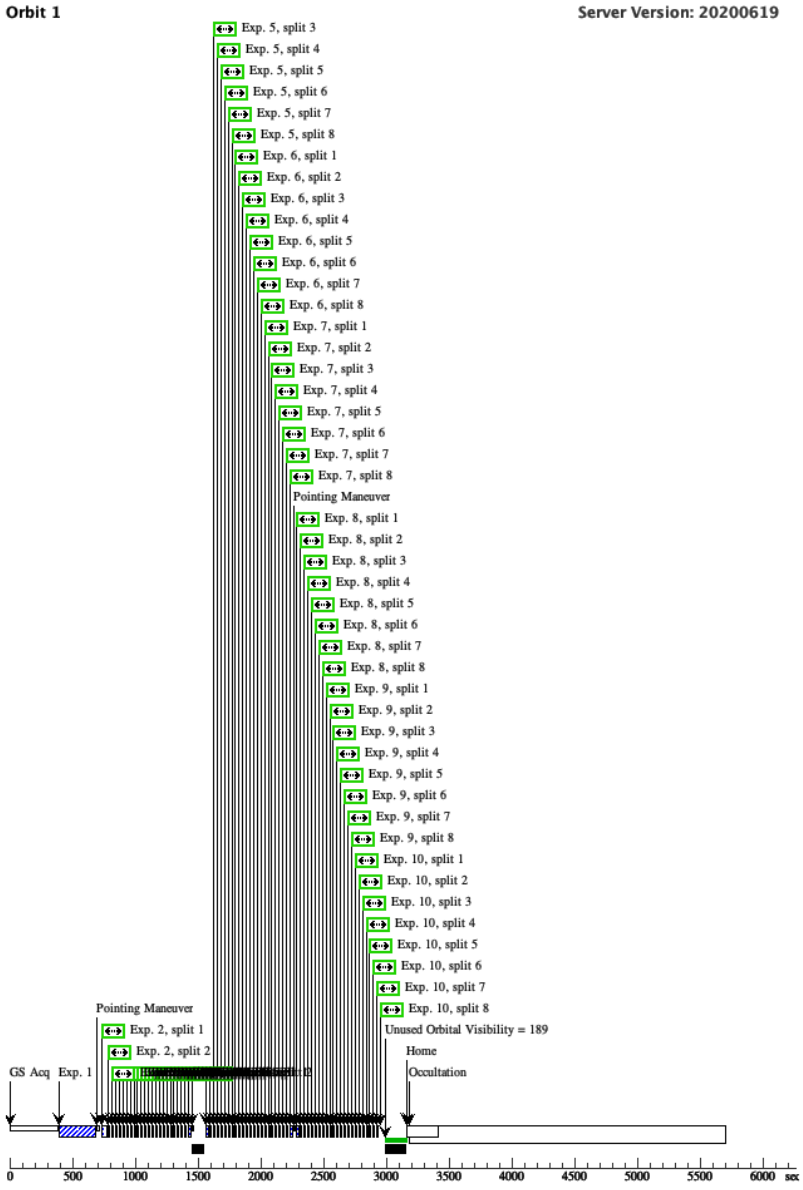
## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ABAUR_ACQ | (1) HD31293 | STIS/CCD, ACQ, F25ND3 | MIRROR | | | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT1 (01) | 0.7 Secs (0.7 Secs)<br>*[==>]* | ***[1]*** |
| *Comments: (Verified with ocjc31n6q_raw.fits (HD141569, prop 13676, A2V, V =7.12)* | | | | | | | | | |
| 2 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.20088,-1.27353 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT1 (01) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 3 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT1 (01) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 4 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT1 (01) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 5 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.19839,-1.26128 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT1 (01) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT1 (01) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 7 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT1 (01) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 8 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20337,-1.28578 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT1 (01) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 9 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT1 (01) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT1 (01) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| | *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

**Orbit Structure**



## Visit

**Proposal 16447, ABAUR-SET1-ORBIT2 (02), completed** Mon Feb 15 13:01:05 GMT 2021

**Diagnostic Status: No Diagnostics**

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 4D TO 4D FROM 01; AFTER 01 BY 0.5 Orbits TO 1.5 Orbits

*Comments: This is the second of three AB Aur single-orbit visits that comprise, with an interleaved PSF orbit, a contiguous 4-orbit visit set (visits 01 - 04).*

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | HD31293 | RA: 04 55 45.8460 (73.9410250d) | Proper Motion RA: 3.926 mas/yr | V=7.05 | Reference Frame: ICRS |
| | Alt Name1: AB-AUR | Dec: +30 33 4.29 (30.55119d) | Proper Motion Dec: -24.112 mas/yr | B = 7.16, | |
| | | Equinox: J2000 | Epoch of Position: 2015.5 | R = 6.96, | |
| | | | | G = 7.08 | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Spec = A0Ve, distance = 162.9 pc, B- V = +0.11*
*Category=STAR*
*Description=[A0-A3 V-IV, HERBIG AE/BE]*

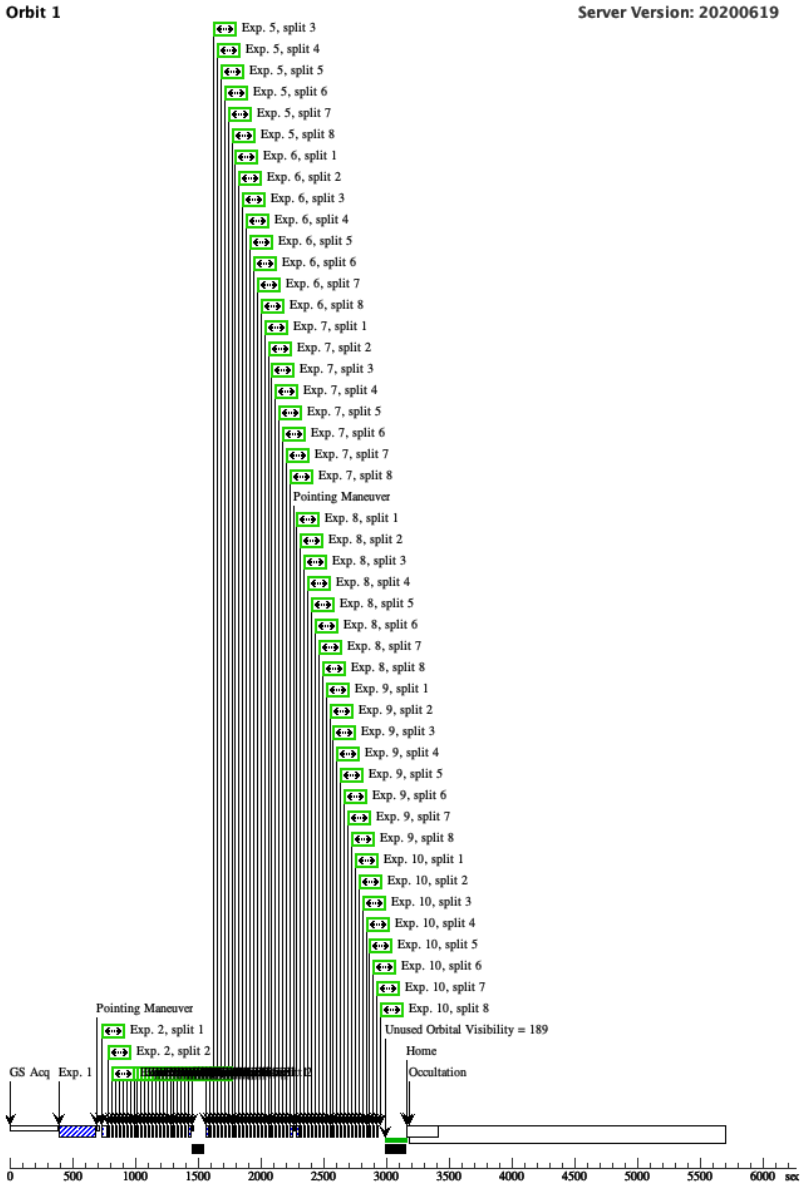
## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ABAUR-ACQ | (1) HD31293 | STIS/CCD, ACQ, F25ND3 | MIRROR | | | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT2 (02) | 0.7 Secs (0.7 Secs)<br>*[==>]* | ***[1]*** |
| *Comments: (Verified with ocjc31n6q_raw.fits (HD141569, prop 13676, A2V, V =7.12)* | | | | | | | | | |
| 2 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.20088,-1.27353 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT2 (02) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 3 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT2 (02) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 4 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT2 (02) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 5 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.19839,-1.26128 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT2 (02) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT2 (02) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 7 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT2 (02) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 8 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20337,-1.28578 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT2 (02) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 9 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT2 (02) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT2 (02) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| | *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

**Orbit Structure**



## Visit

**Proposal 16447, INTERLEAVED-PSF-SET1-ORBIT3 (03), completed** Mon Feb 15 13:01:05 GMT 2021

**Diagnostic Status: No Diagnostics**

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; AFTER 02 BY 0.5 Orbits TO 1.5 Orbits

*Comments: This is the interleaved PSF orbit within the first contiguous 4-orbit visit set (visits 01 - 04).*

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | HD21062-CALIB | RA: 03 24 49.0100 (51.2042083d)<br>Dec: +28 39 8.26 (28.65229d)<br>Equinox: J2000 | Proper Motion RA: 0.002221954559393719 sec of time/yr<br>Proper Motion Dec: -0.05798300003334589 arcsec/yr<br>Epoch of Position: 2015.5 | V=7.12 | Reference Frame: ICRS |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Spec = A0, B - V = +0.13*
*PSF Template/Calibration Reference Star*
*Category=STAR*
*Description=[A0-A3 V-IV]*
*Extended=NO*

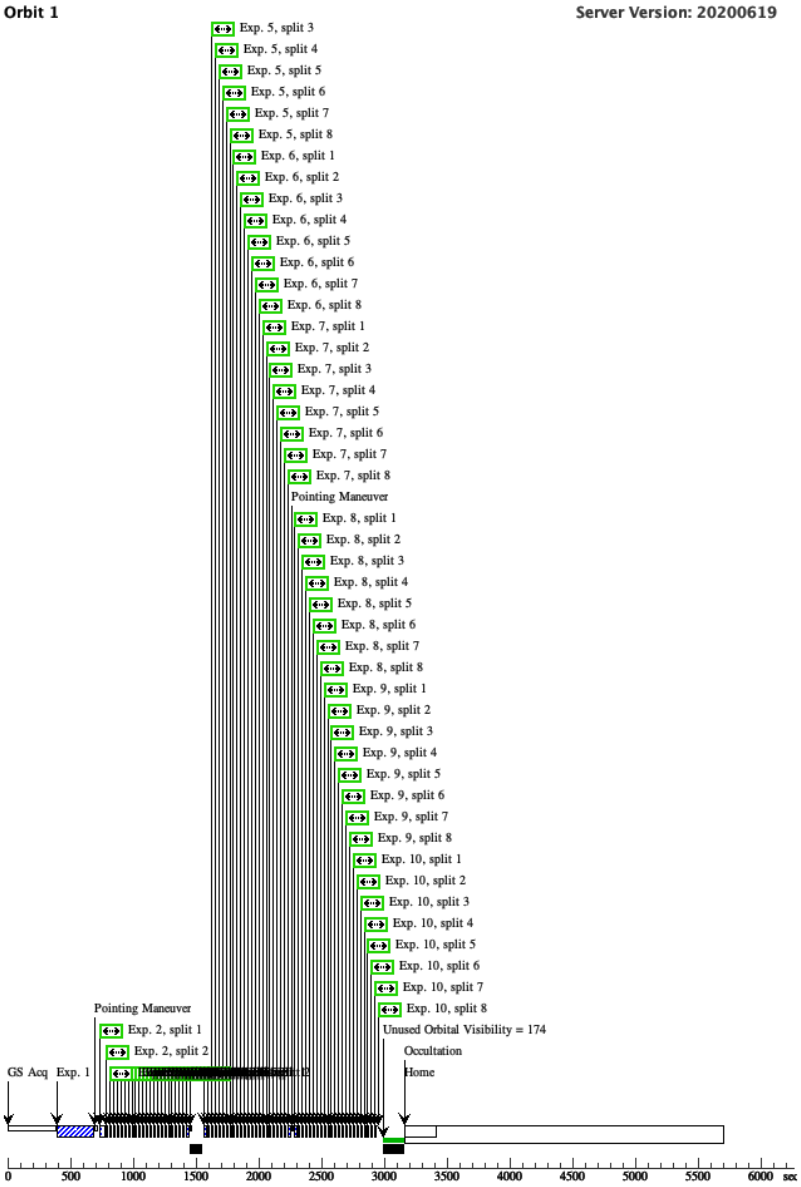
**Exposures**

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PSF_ACQ | (2) HD21062-CALIB | STIS/CCD, ACQ, F25ND3 | MIRROR | | | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET1-ORBIT3 (03) | 0.7 Secs (0.7 Secs)<br>*[==>]* | <br>***[1]*** |
| *Comments: (Verified with ocjc31n6q_raw.fits (HD141569, prop 13676, A2V, V =7.12)* | | | | | | | | | |
| 2 | PSF_BAR10LL_CENTER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.20088,-1.27353 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET1-ORBIT3 (03) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 3 | PSF_BAR10LL_CENTER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET1-ORBIT3 (03) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 4 | PSF_BAR10LL_CENTER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET1-ORBIT3 (03) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 5 | PSF_BAR10LL_PLUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.19839,-1.26128 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET1-ORBIT3 (03) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | PSF_BAR10LL_PLUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET1-ORBIT3 (03) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 7 | PSF_BAR10LL_PLUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET1-ORBIT3 (03) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 8 | PSF_BAR10LL_MINUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20337,-1.28578 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET1-ORBIT3 (03) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 9 | PSF_BAR10LL_MINUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET1-ORBIT3 (03) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | PSF_BAR10LL_MINUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET1-ORBIT3 (03) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| | *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | | |

**Orbit Structure**



## Visit

**Proposal 16447, ABAUR-SET1-ORBIT4 (04), completed** Mon Feb 15 13:01:05 GMT 2021

**Diagnostic Status: No Diagnostics**

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 6D TO 10D FROM 01; AFTER 03 BY 0.5 Orbits TO 1.5 Orbits

*Comments: This is the third of three AB Aur single-orbit visits that comprise, with an interleaved PSF orbit, a contiguous 4-orbit visit set (visits 01 - 04).*

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | HD31293 | RA: 04 55 45.8460 (73.9410250d) | Proper Motion RA: 3.926 mas/yr | V=7.05 | Reference Frame: ICRS |
| | Alt Name1: AB-AUR | Dec: +30 33 4.29 (30.55119d) | Proper Motion Dec: -24.112 mas/yr | B = 7.16, | |
| | | Equinox: J2000 | Epoch of Position: 2015.5 | R = 6.96, | |
| | | | | G = 7.08 | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Spec = A0Ve, distance = 162.9 pc, B- V = +0.11*
*Category=STAR*
*Description=[A0-A3 V-IV, HERBIG AE/BE]*

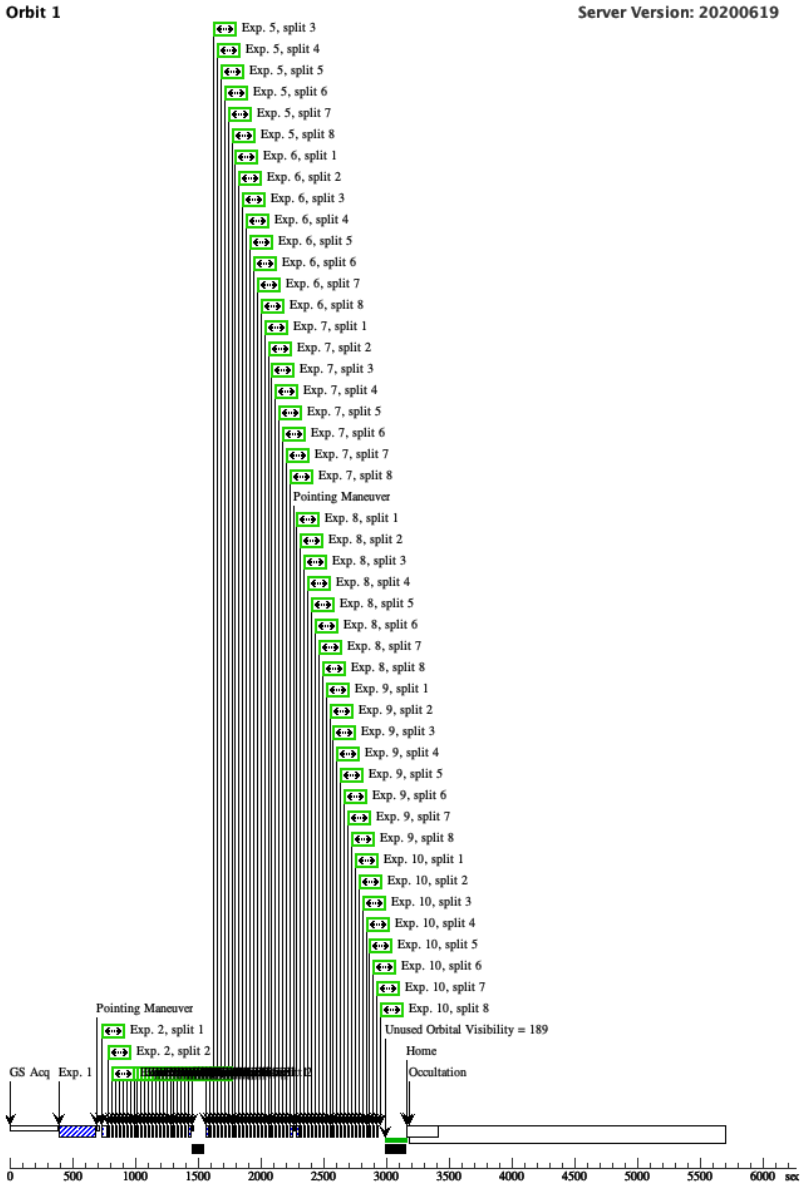
## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ABAUR_ACQ | (1) HD31293 | STIS/CCD, ACQ, F25ND3 | MIRROR | | | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT4 (04) | 0.7 Secs (0.7 Secs)<br>*[==>]* | ***[1]*** |
| *Comments: (Verified with ocjc31n6q_raw.fits (HD141569, prop 13676, A2V, V =7.12)* | | | | | | | | | |
| 2 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20088,-1.27353 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT4 (04) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 3 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT4 (04) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 4 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT4 (04) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 5 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.19839,-1.26128 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT4 (04) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT4 (04) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 7 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT4 (04) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 8 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20337,-1.28578 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT4 (04) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 9 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT4 (04) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET1-ORBIT4 (04) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| | *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

**Orbit Structure**



## Visit

**Proposal 16447, ABAUR-SET2-ORBIT1 (11), completed** Mon Feb 15 13:01:05 GMT 2021

**Diagnostic Status: No Diagnostics**

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 30D TO 70 D

*Comments: This is the first of three AB Aur single-orbit visits that comprise, with an interleaved PSF orbit, a contiguous 4-orbit visit set (visits 11 - 14).*

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | HD31293 | RA: 04 55 45.8460 (73.9410250d) | Proper Motion RA: 3.926 mas/yr | V=7.05 | Reference Frame: ICRS |
| | Alt Name1: AB-AUR | Dec: +30 33 4.29 (30.55119d) | Proper Motion Dec: -24.112 mas/yr | B = 7.16, | |
| | | Equinox: J2000 | Epoch of Position: 2015.5 | R = 6.96, | |
| | | | | G = 7.08 | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Spec = A0Ve, distance = 162.9 pc, B- V = +0.11*
*Category=STAR*
*Description=[A0-A3 V-IV, HERBIG AE/BE]*

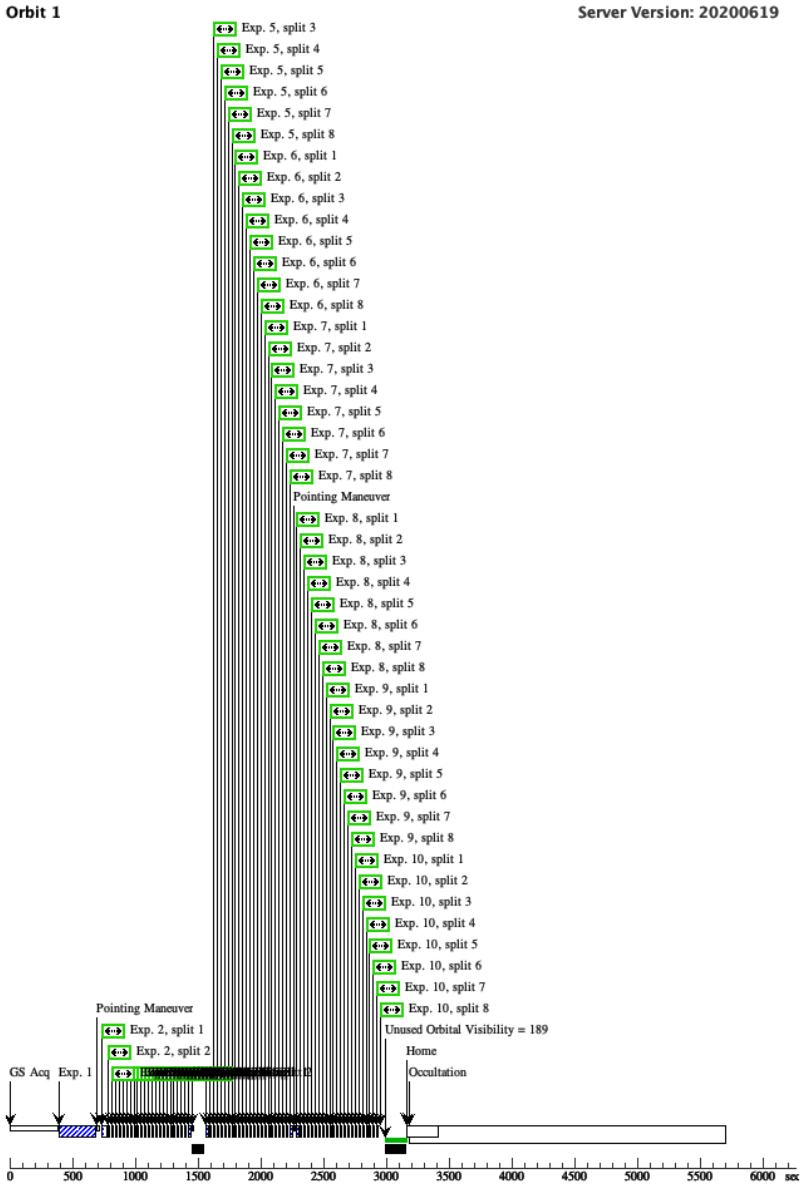
## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ABAUR_ACQ | (1) HD31293 | STIS/CCD, ACQ, F25ND3 | MIRROR | | | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT1 (11) | 0.7 Secs (0.7 Secs)<br>*[==>]* | ***[1]*** |
| *Comments: (Verified with ocjc31n6q_raw.fits (HD141569, prop 13676, A2V, V =7.12)* | | | | | | | | | |
| 2 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.20088,-1.27353 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT1 (11) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 3 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT1 (11) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 4 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT1 (11) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 5 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.19839,-1.26128 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT1 (11) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT1 (11) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 7 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT1 (11) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 8 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20337,-1.28578 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT1 (11) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 9 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT1 (11) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT1 (11) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| | *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

**Orbit Structure**



## Visit

**Proposal 16447, ABAUR-SET2-ORBIT2 (12), completed** Mon Feb 15 13:01:06 GMT 2021

**Diagnostic Status: No Diagnostics**

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT -4D TO -4D FROM 11; AFTER 11 BY 0.5 Orbits TO 1.5 Orbits

*Comments: This is the second of three AB Aur single-orbit visits that comprise, with an interleaved PSF orbit, a contiguous 4-orbit visit set (visits 11 - 14).*

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | HD31293 | RA: 04 55 45.8460 (73.9410250d) | Proper Motion RA: 3.926 mas/yr | V=7.05 | Reference Frame: ICRS |
| | Alt Name1: AB-AUR | Dec: +30 33 4.29 (30.55119d) | Proper Motion Dec: -24.112 mas/yr | B = 7.16, | |
| | | Equinox: J2000 | Epoch of Position: 2015.5 | R = 6.96, | |
| | | | | G = 7.08 | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Spec = A0Ve, distance = 162.9 pc, B- V = +0.11*
*Category=STAR*
*Description=[A0-A3 V-IV, HERBIG AE/BE]*

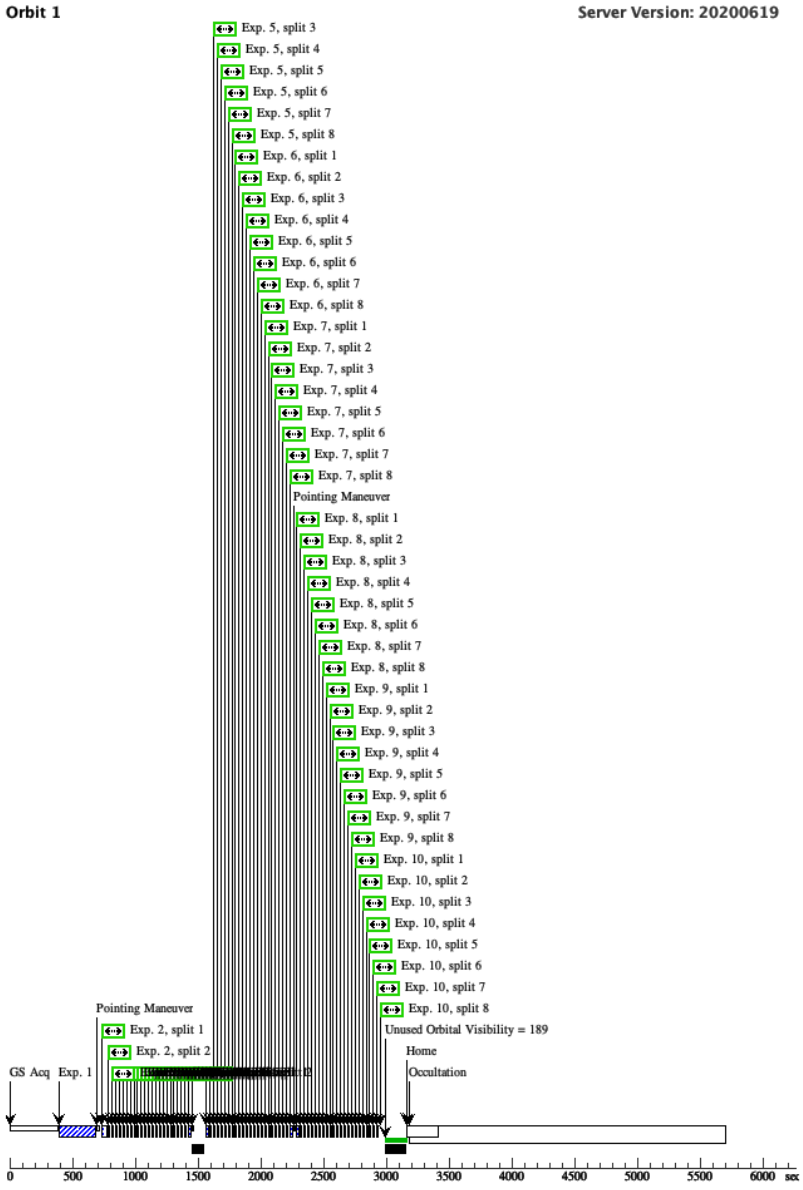
## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ABAUR-ACQ | (1) HD31293 | STIS/CCD, ACQ, F25ND3 | MIRROR | | | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT2 (12) | 0.7 Secs (0.7 Secs)<br>*[==>]* | ***[1]*** |
| *Comments: (Verified with ocjc31n6q_raw.fits (HD141569, prop 13676, A2V, V =7.12)* | | | | | | | | | |
| 2 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.20088,-1.27353 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT2 (12) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 3 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT2 (12) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 4 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT2 (12) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 5 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.19839,-1.26128 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT2 (12) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT2 (12) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 7 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT2 (12) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 8 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20337,-1.28578 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT2 (12) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 9 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT2 (12) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT2 (12) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| | *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

**Orbit Structure**



## Visit

**Proposal 16447, INTERLEAVED-PSF-SET2-ORBIT3 (13), failed** Mon Feb 15 13:01:06 GMT 2021

**Diagnostic Status: No Diagnostics**

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; AFTER 12 BY 0.5 Orbits TO 1.5 Orbits

*Comments: This is the interleaved PSF orbit within the first contiguous 4-orbit visit set (visits 11 - 14).*

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | HD21062-CALIB | RA: 03 24 49.0100 (51.2042083d)<br>Dec: +28 39 8.26 (28.65229d)<br>Equinox: J2000 | Proper Motion RA: 0.002221954559393719 sec of time/yr<br>Proper Motion Dec: -0.05798300003334589 arcsec/yr<br>Epoch of Position: 2015.5 | V=7.12 | Reference Frame: ICRS |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Spec = A0, B - V = +0.13*
*PSF Template/Calibration Reference Star*
*Category=STAR*
*Description=[A0-A3 V-IV]*
*Extended=NO*

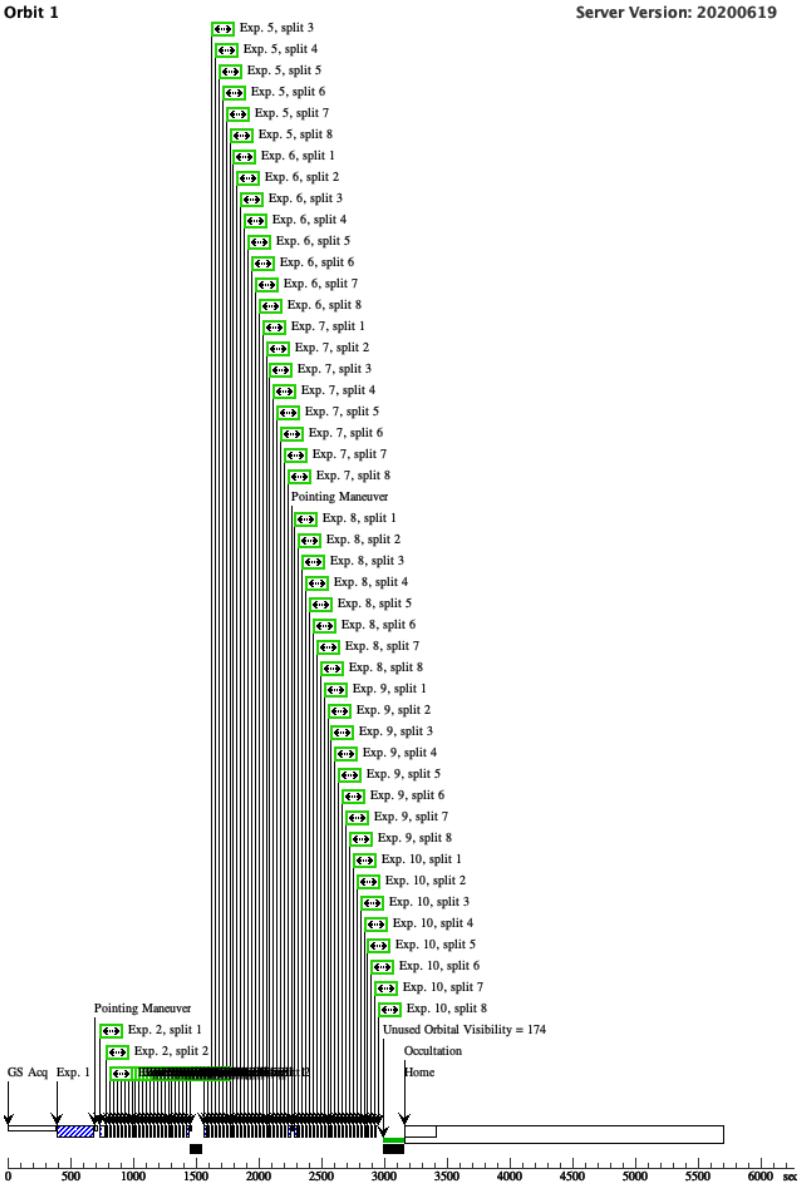
**Exposures**

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PSF_ACQ | (2) HD21062-CALIB | STIS/CCD, ACQ, F25ND3 | MIRROR | | | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (13) | 0.7 Secs (0.7 Secs)<br>*[==>]* | <br>***[1]*** |
| *Comments: (Verified with ocjc31n6q_raw.fits (HD141569, prop 13676, A2V, V =7.12)* | | | | | | | | | |
| 2 | PSF_BAR10LL_CENTER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.20088,-1.27353 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (13) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 3 | PSF_BAR10LL_CENTER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (13) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 4 | PSF_BAR10LL_CENTER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (13) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 5 | PSF_BAR10LL_PLUS DITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.19839,-1.26128 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (13) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | PSF_BAR10LL_PLUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (13) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 7 | PSF_BAR10LL_PLUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (13) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 8 | PSF_BAR10LL_MINUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20337,-1.28578 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (13) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 9 | PSF_BAR10LL_MINUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (13) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | PSF_BAR10LL_MINUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (13) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| | *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | | |

**Orbit Structure**



## Visit

**Proposal 16447, ABAUR-SET2-ORBIT4 (14), failed** Mon Feb 15 13:01:06 GMT 2021

**Diagnostic Status: No Diagnostics**

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT -10D TO -6D FROM 11; AFTER 13 BY 0.5 Orbits TO 1.5 Orbits

*Comments: This is the third of three AB Aur single-orbit visits that comprise, with an interleaved PSF orbit, a contiguous 4-orbit visit set (visits 11 - 14).*

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | HD31293 | RA: 04 55 45.8460 (73.9410250d) | Proper Motion RA: 3.926 mas/yr | V=7.05 | Reference Frame: ICRS |
| | Alt Name1: AB-AUR | Dec: +30 33 4.29 (30.55119d) | Proper Motion Dec: -24.112 mas/yr | B = 7.16, | |
| | | Equinox: J2000 | Epoch of Position: 2015.5 | R = 6.96, | |
| | | | | G = 7.08 | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Spec = A0Ve, distance = 162.9 pc, B- V = +0.11*
*Category=STAR*
*Description=[A0-A3 V-IV, HERBIG AE/BE]*

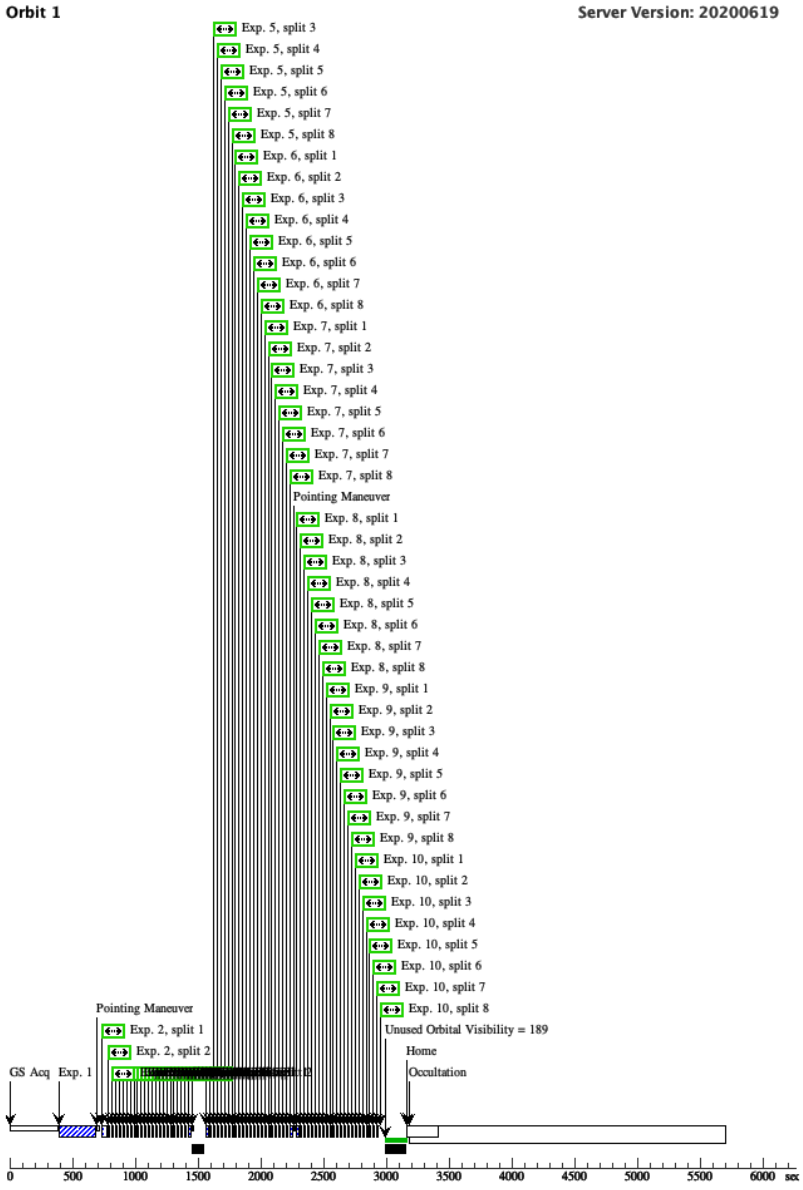
**Exposures**

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ABAUR_ACQ | (1) HD31293 | STIS/CCD, ACQ, F25ND3 | MIRROR | | | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (14) | 0.7 Secs (0.7 Secs)<br>*[==>]* | ***[1]*** |
| *Comments: (Verified with ocjc31n6q_raw.fits (HD141569, prop 13676, A2V, V =7.12)* | | | | | | | | | |
| 2 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.20088,-1.27353 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (14) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 3 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (14) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 4 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (14) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 5 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.19839,-1.26128 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (14) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (14) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 7 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (14) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 8 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20337,-1.28578 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (14) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 9 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (14) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (14) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| | *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

**Orbit Structure**



## Visit

**Proposal 16447, INTERLEAVED-PSF-SET2-ORBIT3 (15), implementation** Mon Feb 15 13:01:06 GMT 2021

**Diagnostic Status: No Diagnostics**

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD

*Comments: This is a repeat of visit 13. This PSF orbit within 1 orbit of visit 16.*

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | HD21062-CALIB | RA: 03 24 49.0100 (51.2042083d)<br>Dec: +28 39 8.26 (28.65229d)<br>Equinox: J2000 | Proper Motion RA: 0.002221954559393719 sec of time/yr<br>Proper Motion Dec: -0.05798300003334589 arcsec/yr<br>Epoch of Position: 2015.5 | V=7.12 | Reference Frame: ICRS |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Spec = A0, B - V = +0.13*
*PSF Template/Calibration Reference Star*
*Category=STAR*
*Description=[A0-A3 V-IV]*
*Extended=NO*

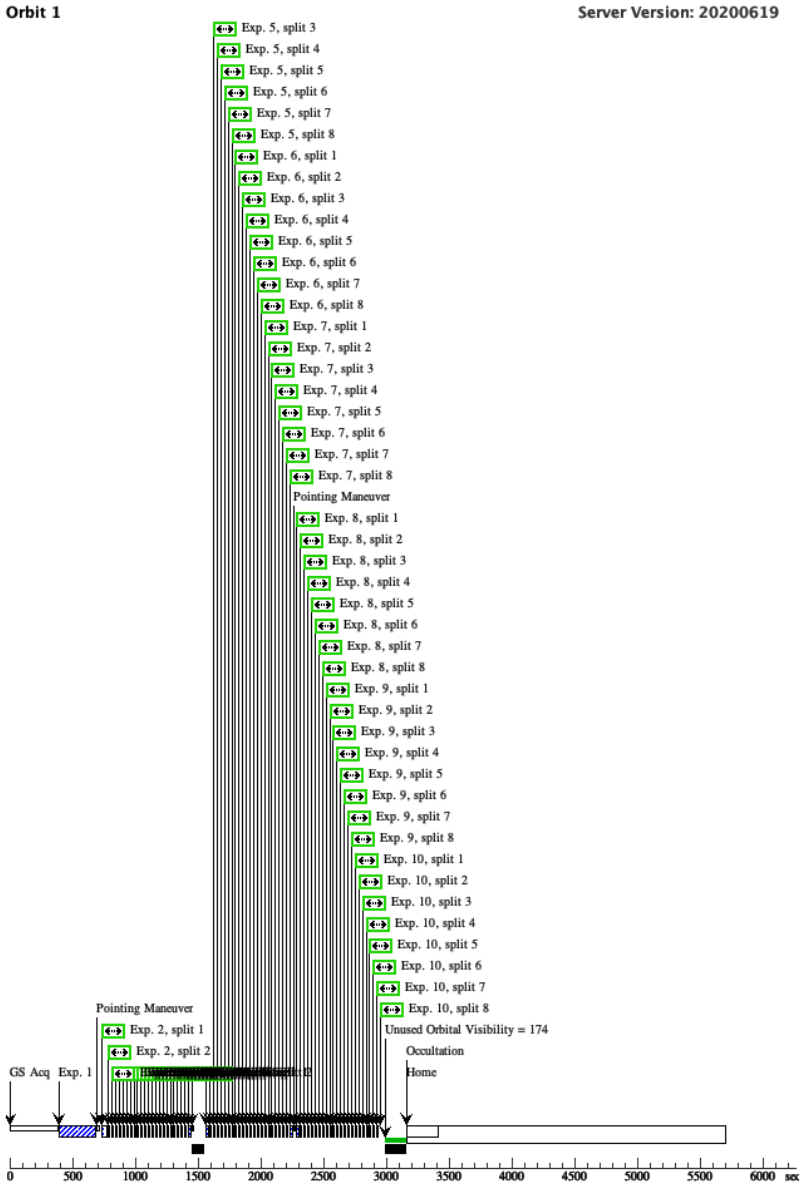
**Exposures**

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PSF_ACQ | (2) HD21062-CALIB | STIS/CCD, ACQ, F25ND3 | MIRROR | | | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (15) | 0.7 Secs (0.7 Secs)<br>*[==>]* | <br>***[1]*** |
| *Comments: (Verified with ocjc31n6q_raw.fits (HD141569, prop 13676, A2V, V =7.12)* | | | | | | | | | |
| 2 | PSF_BAR10LL_CENTER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.20088,-1.27353 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (15) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 3 | PSF_BAR10LL_CENTER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (15) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 4 | PSF_BAR10LL_CENTER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (15) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 5 | PSF_BAR10LL_PLUS DITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.19839,-1.26128 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (15) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | <br>***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | PSF_BAR10LL_PLUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (15) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 7 | PSF_BAR10LL_PLUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (15) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 8 | PSF_BAR10LL_MINUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20337,-1.28578 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (15) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 9 | PSF_BAR10LL_MINUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (15) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | PSF_BAR10LL_MINUSDITHER | (2) HD21062-CALIB | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in INTERLEAVED-PSF-SET2-ORBIT3 (15) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| | *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | | |

**Orbit Structure**



## Visit

**Proposal 16447, ABAUR-SET2-ORBIT4 (16), implementation** Mon Feb 15 13:01:06 GMT 2021

**Diagnostic Status: No Diagnostics**

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 61D TO 63 D; GROUP 16,15 WITHIN 1.5 Orbits

*Comments: This is the third of three AB Aur single-orbit visits that comprise, with an interleaved PSF orbit, a contiguous 4-orbit visit set (visits 11 - 14).*

*This is a repeat of visit 14 which failed due to GS Acq problems. It will be repeated at the same orient visit 14 executed at, u3pa= 61-63 deg.*

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | HD31293 | RA: 04 55 45.8460 (73.9410250d) | Proper Motion RA: 3.926 mas/yr | V=7.05 | Reference Frame: ICRS |
| | Alt Name1: AB-AUR | Dec: +30 33 4.29 (30.55119d) | Proper Motion Dec: -24.112 mas/yr | B = 7.16, | |
| | | Equinox: J2000 | Epoch of Position: 2015.5 | R = 6.96, | |
| | | | | G = 7.08 | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Spec = A0Ve, distance = 162.9 pc, B- V = +0.11*
*Category=STAR*
*Description=[A0-A3 V-IV, HERBIG AE/BE]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ABAUR_ACQ | (1) HD31293 | STIS/CCD, ACQ, F25ND3 | MIRROR | | | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (16) | 0.7 Secs (0.7 Secs)<br>*[==>]* | ***[1]*** |
| *Comments: (Verified with ocjc31n6q_raw.fits (HD141569, prop 13676, A2V, V =7.12)* | | | | | | | | | |
| 2 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.20088,-1.27353 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (16) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 3 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (16) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 4 | ABAUR_BAR10LL_CENTER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 2 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (16) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 5 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | POS TARG -1.19839,-1.26128 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (16) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (16) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 7 | ABAUR_BAR10LL_PLUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 5 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (16) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 + 1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 8 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | POS TARG -1.20337,-1.28578 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (16) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |
| 9 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150; CR-SPLIT=8; GAIN=4; CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (16) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | ABAUR_BAR10LL_MINUSDITHER | (1) HD31293 | STIS/CCD, ACCUM, BAR10 | MIRROR | SIZEAXIS2=150;<br>CR-SPLIT=8;<br>GAIN=4;<br>CENTERAXIS2=820 | SAME POS AS 8 | Sequence 1-10 Non-Int in ABAUR-SET2-ORBIT4 (16) | 56 Secs (56 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]*<br>*[==>(Split 5)]*<br>*[==>(Split 6)]*<br>*[==>(Split 7)]*<br>*[==>(Split 8)]* | ***[1]*** |
| | *Comments: Center target on lower-left corner of BAR10 -1/4 pixel dither with center of sub-arrary to readout at pixel Y=820 and extent 150 pixels (+/-3.8").* | | | | | | | | | |

**Orbit Structure**