



13207 - WFC3 SS IR FSM Test

Cycle: 27, Proposal Category: CAL/WFC3

(Availability Mode: RESTRICTED)

INVESTIGATORS

| <i>Name</i> | <i>Institution</i> | <i>E-Mail</i> |
|--|--|---------------------------|
| Dr. John W. MacKenty (PI) (Contact) | Space Telescope Science Institute | mackenty@stsci.edu |
| Heather Gunning (CoI) | Space Telescope Science Institute | gunning@stsci.edu |
| Dr. Sylvia M. Baggett (CoI) | Space Telescope Science Institute | sbaggett@stsci.edu |

VISITS

| <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> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 01 | TUNGSTEN | WFC3/IR | 1 | 17-Oct-2019 14:03:07.0 | yes |
| 02 | TUNGSTEN | WFC3/IR | 1 | 17-Oct-2019 14:03:08.0 | yes |
| 03 | TUNGSTEN | WFC3/IR | 1 | 17-Oct-2019 14:03:09.0 | yes |
| 04 | DARK | WFC3/IR | 1 | 17-Oct-2019 14:03:09.0 | yes |

4 Total Orbits Used

ABSTRACT

Part of side switch activities.

This proposal will verify the operation of the IR filter wheel (FSM) and the primary calsystem tungsten lamp. A baseline image set will be established by obtaining one internal flatfield in each IR filter using the channel's default lamp, plus one dark in each of the different sample sequence types used.

This proposal corresponds to WF10a; it should not be run until after successful completion of the IR functional (WF07, 13203)

OBSERVING DESCRIPTION

Part of side switch activities.

One internal flatfield will be taken in each IR filter using the default tungsten lamp for the IR channel along with one dark in each of the sample sequences employed. This will exercise the filter wheel, providing a check of the wheel operation as well as an initial set of flatfields for comparing to thermal-vacuum ground test data and to later on-orbit data.

----- Calibration Justification -----

Flatfield illumination patterns will be analyzed and compared to previous ground test results to check for any changes in filter structures, vignetting within field, etc. The flux level of the tungsten lamp will be compared to previous ground test results to verify performance of the bulb. Data will be used, along with internal flats and darks from other proposals, to generate updates for calibration pipeline flatfield reference files.

----- Additional Comments -----

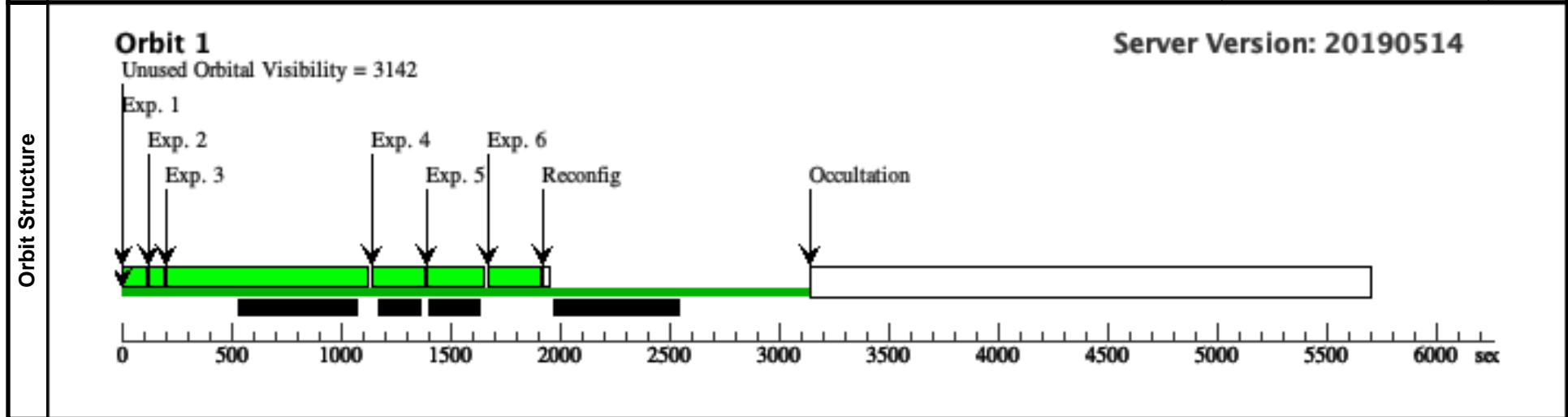
Exposure times assume that tungsten lamp #2 is the default IR channel lamp.

Proposal 13207 - Visit 01 - WFC3 SS IR FSM Test

Thu Oct 17 18:03:10 GMT 2019

| | |
|--------------|---|
| Visit | <p>Proposal 13207, Visit 01, implementation</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: GROUP 01,02,03,04 WITHIN 2D</p> |
| | <p>(Visit 01) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p> |

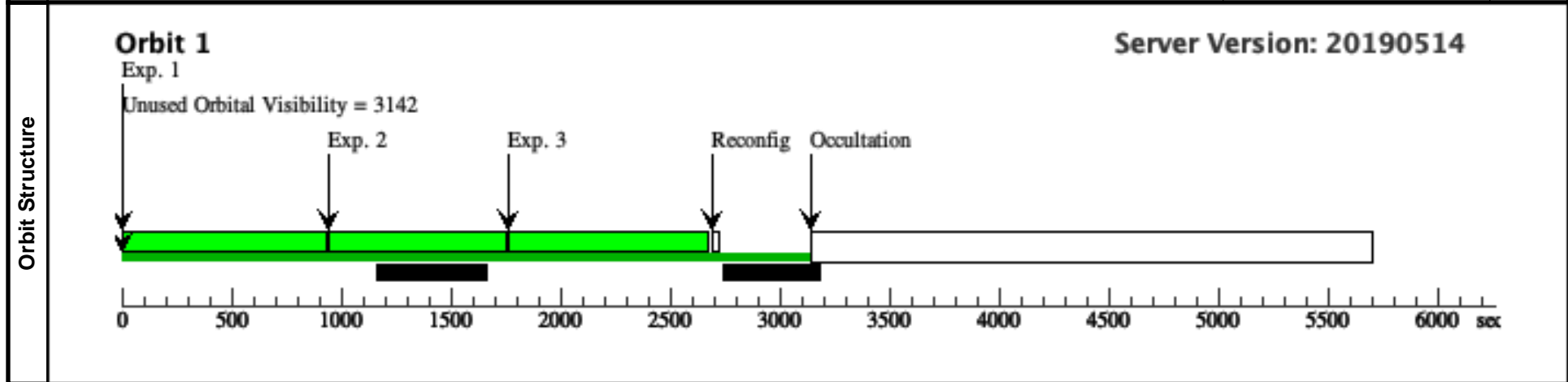
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|------------------|---|---------------------|---------------------|-------------------------|-------------------------|--------------------------------|-------------------------------|--------|---|--------------------------------------|
| | | 1 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F105W | SAMP-SEQ=SPARS 10; NSAMP=9 | | | 82.939995 Secs (82.94 Secs) [==>] |
| | 2 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F160W | SAMP-SEQ=STEP2 5; NSAMP=6 | | | 49.230226 Secs (49.23 Secs) [==>] | [1] |
| | 3 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F128N | SAMP-SEQ=STEP1 00; NSAMP=15 | | | 899.233261 Secs (899.233 Secs) [==>] | [1] |
| | 4 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F153M | SAMP-SEQ=STEP2 5; NSAMP=13 | | | 224.233831 Secs (224.234 Secs) [==>] | [1] |
| | 5 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F139M | SAMP-SEQ=STEP2 5; NSAMP=14 | | | 249.234346 Secs (249.234 Secs) [==>] | [1] |
| | 6 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F127M | SAMP-SEQ=STEP2 5; NSAMP=13 | | | 224.233831 Secs (224.234 Secs) [==>] | [1] |



| | |
|--------------|--|
| Visit | Proposal 13207, Visit 02, implementation Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: (none) |
|--------------|--|

| | |
|--------------------|--|
| Diagnostics | (Visit 02) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU |
|--------------------|--|

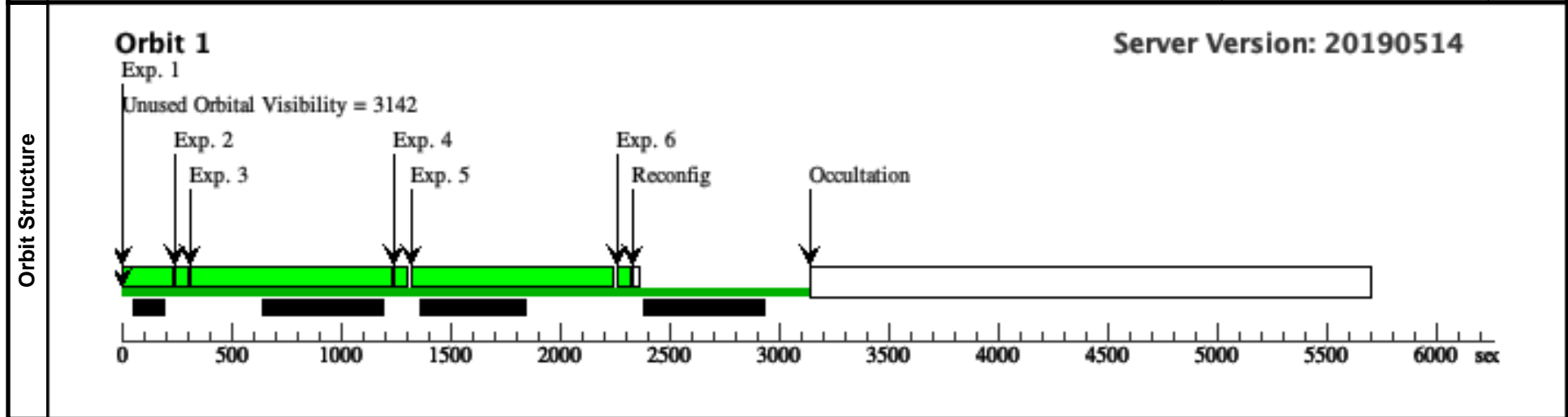
| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---------------------|----------|-------------------------|---------------|-------------------------------|---------------|--------|---|-------|
| 1 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F132N | SAMP-SEQ=STEP100; NSAMP=15 | | | 899.233261 Secs (899.233 Secs) [==>] | [1] |
| 2 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F167N | SAMP-SEQ=STEP100; NSAMP=14 | | | 799.232938 Secs (799.233 Secs) [==>] | [1] |
| 3 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F164N | SAMP-SEQ=STEP100; NSAMP=15 | | | 899.233261 Secs (899.233 Secs) [==>] | [1] |



| | |
|--------------|--|
| Visit | Proposal 13207, Visit 03, implementation Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: (none) |
|--------------|--|

| | |
|--------------------|--|
| Diagnostics | (Visit 03) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU |
|--------------------|--|

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---------------------|----------|-------------------------|---------------|-------------------------------|---------------|--------|---|-------|
| 1 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F098M | SAMP-SEQ=STEP100; NSAMP=8 | | | 199.231 Secs (199.231 Secs) [==>] | [1] |
| 2 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F110W | SAMP-SEQ=RAPID; NSAMP=14 | | | 41.052074 Secs (41.052 Secs) [==>] | [1] |
| 3 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F126N | SAMP-SEQ=STEP100; NSAMP=15 | | | 899.233261 Secs (899.233 Secs) [==>] | [1] |
| 4 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F125W | SAMP-SEQ=RAPID; NSAMP=15 | | | 43.984365 Secs (43.984 Secs) [==>] | [1] |
| 5 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F130N | SAMP-SEQ=STEP100; NSAMP=15 | | | 899.233261 Secs (899.233 Secs) [==>] | [1] |
| 6 | tungsten flat field | TUNGSTEN | WFC3/IR, MULTIACCUM, IR | F140W | SAMP-SEQ=RAPID; NSAMP=13 | | | 38.119783 Secs (38.12 Secs) [==>] | [1] |



| | |
|--------------|--|
| Visit | Proposal 13207, Visit 04, implementation Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: (none) |
|--------------|--|

| | |
|--------------------|--|
| Diagnostics | (Visit 04) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU |
|--------------------|--|

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|--------------------|--------|-------------------------|---------------|-----------------------------------|---------------|--------|---|-------|
| 1 | dark - rapid | DARK | WFC3/IR, MULTIACCUM, IR | BLANK | SAMP-SEQ=RAPID ; NSAMP=15 | | | 43.984365 Secs (43.984 Secs) [==>] | [1] |
| 2 | dark - step1 00 | DARK | WFC3/IR, MULTIACCUM, IR | BLANK | SAMP-SEQ=STEP1 00; NSAMP=15 | | | 899.233261 Secs (899.233 Secs) [==>] | [1] |
| 3 | dark - spars1 0 | DARK | WFC3/IR, MULTIACCUM, IR | BLANK | SAMP-SEQ=SPARS 10; NSAMP=15 | | | 142.945773 Secs (142.946 Secs) [==>] | [1] |
| 4 | dark - step2 5 | DARK | WFC3/IR, MULTIACCUM, IR | BLANK | SAMP-SEQ=STEP2 5; NSAMP=15 | | | 274.234861 Secs (274.235 Secs) [==>] | [1] |

