14018 - WFC3/UVIS contamination and stability monitor

Cycle: 22, Proposal Category: CAL/WFC3
(Availability Mode: RESTRICTED)

INVESTIGATORS

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Sylvia M. Baggett (PI)</td>
<td>Space Telescope Science Institute</td>
<td><a href="mailto:sbaggett@stsci.edu">sbaggett@stsci.edu</a></td>
</tr>
<tr>
<td>Ms. Catherine Gosmeyer (CoI)</td>
<td>Space Telescope Science Institute</td>
<td><a href="mailto:cgosmeyer@stsci.edu">cgosmeyer@stsci.edu</a></td>
</tr>
<tr>
<td>Dr. Susana E. Deustua (CoI)</td>
<td>Space Telescope Science Institute</td>
<td><a href="mailto:deustua@stsci.edu">deustua@stsci.edu</a></td>
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VISITS

<table>
<thead>
<tr>
<th>Visit</th>
<th>Targets used in Visit</th>
<th>Configurations used in Visit</th>
<th>Orbits Used</th>
<th>Last Orbit Planner Run</th>
<th>OP Current with Visit?</th>
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<tbody>
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ABSTRACT
This proposal acquires the necessary data for monitoring the photometric throughput of WFC3/UVIS periodically during the cycle to evaluate its stability. Imaging of a spectrophotometric standard star in a subset of filters will allow for an assessment of the flux stability as a function of time and wavelength as well as check for the presence of possible contaminants on the detector windows. The data will also be used in determining the WFC3/UVIS photometric zeropoints.

OBSERVING DESCRIPTION
The program for this cycle has two components:

A) Continuation of the nominal monitoring as done in past cycles, using the white dwarf spectrophotometric standard GRW+70d5824. Each iteration is one orbit and the observing cadence is once every 5 weeks, deliberately out of synchronization with the monthly anneals in order to sample the phase space. Each iteration obtains dithered subarray observations of the standard star in a subsample of filters in the UVIS, including the UV grism, on both UVIS detectors. The last C21 iteration is Oct 13, 2014 so 11 iterations cover C22 through Nov 2, 2015.

B) Seven extra orbits to expand the number of filters and standard stars observed. Recent analysis results have shown low-level long-term throughput declines in the visible and red filters but little decline in UV filters (WFC3-ISR 2014-20). The new data will allow for further investigation of the trend (archival data from 2009 are available for the alternate standard). Specifically, 2 orbits early in the cycle will be used for supplemental GRW+70 observations using filters not observed recently but for which SMOV and C17 archival data are available, enabling additional long-term measurements. The remaining orbits will be used to acquire 4-point dither subarray images in all wide and medium filters in both detectors using the spectrophotometric standard star G191-B2B. These data will allow for a direct comparison to the post-launch data in order to provide a cross-check of the throughput trends seen in the GRW+70 data as well as a fresh evaluation of the throughput stability as a function of wavelength and color.
Nominally, starting from the last Cycle 21 visit Oct 13-19, a 5-week cadence results in these windows although some may require tweaking due to lack of target visibility.

Nov 17-23
Dec 22-28
Jan 26-Feb 1
Mar 2-8
Apr 6-12
May 11-17
Jun 15-21
Jul 20-26
Aug 24-30
Sep 28-Oct 4
Nov 2-8
### Visit
**Proposal 14018, iteration 1 (01), completed**

- **Diagnostic Status:** No Diagnostics
- **Scientific Instruments:** WFC3/UVIS
- **Special Requirements:** SCHED 50%; BETWEEN 05-NOV-2014:00:00:00 AND 12-NOV-2014:23:59:59
- **Comments:** Single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short F225W after pattern

### Patterns

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<tr>
<th>#</th>
<th>Primary Pattern</th>
<th>Secondary Pattern</th>
<th>Exposures</th>
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| (2) | Pattern Type=WFC3-UVIS-DITHER-BOX  
Purpose=DITHER  
Number Of Points=4  
Point Spacing=0.173  
Line Spacing=0.112  
Coordinate Frame=POS-TARG  
Pattern Orientation=23.884  
Angle Between Sides=81.785  
Center Pattern=false | | (1), (2), (7), (8) |
| (3) | Pattern Type=WFC3-UVIS-DITHER-LINE-3PT  
Purpose=DITHER  
Number Of Points=3  
Point Spacing=0.135  
Line Spacing=  
Coordinate Frame=POS-TARG  
Pattern Orientation=46.84  
Angle Between Sides=  
Center Pattern=false | | (3), (9) |
| (4) | Pattern Type=WFC3-UVIS-DITHER-LINE  
Purpose=DITHER  
Number Of Points=2  
Point Spacing=0.145  
Line Spacing=  
Coordinate Frame=POS-TARG  
Pattern Orientation=46.84  
Angle Between Sides=  
Center Pattern=false | | (6), (12) |

### Fixed Targets

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<th>#</th>
<th>Name</th>
<th>Target Coordinates</th>
<th>Targ. Coord. Corrections</th>
<th>Fluxes</th>
<th>Miscellaneous</th>
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</table>
| (1) | GRW+70D5824  
Alt Name1: PRIMARY | RA: 13 38 51.1700 (204.7132083d)  
Dec: +70 17 7.85 (70.28551d)  
Equinox: J2000 | Proper Motion RA: -0.0798 sec of time/yr  
Proper Motion Dec: -0.0262 arcsec/yr  
B-V = -9.0e-2 | Reference Frame: WFPC2 OBSERVATIONS |
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<td>1</td>
<td>F218W-UVI</td>
<td>(1) GRW+70D5824</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
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<td>CR-SPLIT=NO; FLASH=12.</td>
<td>Pattern 2, Exps 1-1 in iteration 1 (01) (2)</td>
<td>17.6 Secs (70.4 Secs)</td>
<td>[I]</td>
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<td>2</td>
<td>F225W-UVI</td>
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<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
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<td>F275W-UVI</td>
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<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
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<td>4</td>
<td>F336W-UVI</td>
<td>(1) GRW+70D5824</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
<td>F336W</td>
<td>CR-SPLIT=NO; FLASH=12.0</td>
<td>Pattern 4, Exps 6-6 in iteration 1 (01) (4)</td>
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<td>5</td>
<td>F438W-UVI</td>
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<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
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<td>CR-SPLIT=NO; FLASH=12.0</td>
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<td>13</td>
<td>G280 reference image (F300X) subarray on chip 2</td>
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<tr>
<td></td>
<td>SIZEAXIS2=768; CENTERAXIS2=10 26;</td>
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<td></td>
<td>Comments: Nominal &quot;UVIS&quot; aperture is ~10&quot; above the chip gap on chip 1; a Y-postarg of about -50&quot; places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11994).</td>
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<td></td>
<td>1.0 Secs (1 Secs)</td>
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| 14 | G280 image, (1) GRW+70D5824 WFC3/UVIS, ACCUM, UVIS G280 |
|   | SIZEAXIS2=768; POS TARG 0.0,-50. |
|   | CENTERAXIS2=10 26; |
|   | AMP=D; |
|   | FLASH=12.0 |
|   | Comments: Only "UVIS" aperture is allowed with G280, so a postarg is used to move the target to UVIS2. Nominal "UVIS" aperture is ~10" above the chip gap on chip 1; a Y-postarg of about -50" places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11994). |
|   | 40. Secs (40 Secs) |
Visit Proposal 14018, iteration 2 (02), scheduling

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 50%; BETWEEN 22-DEC-2014:00:00:00 AND 28-DEC-2014:23:59:59

Comments: single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short f225w after pattern

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<th>Primary Pattern</th>
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<th>Exposures</th>
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Fixed Targets

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<tr>
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<th>Name</th>
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<th>Targ. Coord. Corrections</th>
<th>Fluxes</th>
<th>Miscellaneous</th>
</tr>
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<tr>
<td>(1)</td>
<td>GRW+70D5824</td>
<td>RA: 13 38 51.1700 (204.7132083d) Dec: +70 17 7.85 (70.28551d)</td>
<td>Proper Motion RA: -0.0798 sec of time/yr Proper Motion Dec: -0.0262 arcsec/yr Epoch of Position: 1991.25</td>
<td>B-V = -9.0e-2</td>
<td>Reference Frame: WFPC2 OBSERVATIONS</td>
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<td>F218W-UVI</td>
<td>(1) GRW+70D5824 S1</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
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<td>F336W</td>
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<td>5</td>
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<td>13</td>
<td>G280 reference image (F300X) subarray on chip 2</td>
<td>WFC3/UVIS, ACCUM, UVIS</td>
<td>F300X</td>
<td>AMPL=D; POS TARG 0.0,-50.</td>
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<tr>
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<td></td>
<td>SIZEAXIS2=768; CENTERAXIS2=10</td>
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<td>26; FLASH=12.0</td>
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<td></td>
<td>1.0 Secs (1 Secs)</td>
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<tr>
<td>Comments: Nominal &quot;UVIS&quot; aperture is ~10&quot; above the chip gap on chip 1; a Y-postarg of about -50&quot; places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).</td>
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<td>14</td>
<td>G280 image, chip 2</td>
<td>WFC3/UVIS, ACCUM, UVIS</td>
<td>G280</td>
<td>AMPL=D; POS TARG 0.0,-50.</td>
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<td>SIZEAXIS2=768; CENTERAXIS2=10</td>
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<td>26; FLASH=12.0</td>
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<td>40. Secs (40 Secs)</td>
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<td>Comments: Only &quot;UVIS&quot; aperture is allowed with G280, so a postarg is used to move the target to UVIS2. Nominal &quot;UVIS&quot; aperture is ~10&quot; above the chip gap on chip 1; a Y-postarg of about -50&quot; places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).</td>
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## Proposal 14018, iteration 3 (03), scheduling

### Diagnostic Status: No Diagnostics

**Scientific Instruments:** WFC3/UVIS

**Special Requirements:** SCHED 50%; BETWEEN 26-JAN-2015:00:00:00 AND 01-FEB-2015:23:59:59

**Comments:** single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short f225w after pattern

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### Patterns

<table>
<thead>
<tr>
<th>#</th>
<th>Primary Pattern</th>
<th>Secondary Pattern</th>
<th>Exposures</th>
</tr>
</thead>
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| (2) | Pattern Type=WFC3-UVIS-DITHER-BOX  
Purpose=DITHER  
Number Of Points=4  
Point Spacing=0.173  
Line Spacing=0.112 | Coordinate Frame=POS-TARG  
Pattern Orientation=23.884  
Angle Between Sides=81.785  
Center Pattern=false | (1), (2), (7), (8) |
| (3) | Pattern Type=WFC3-UVIS-DITHER-LINE-3PT  
Purpose=DITHER  
Number Of Points=3  
Point Spacing=0.135  
Line Spacing= | Coordinate Frame=POS-TARG  
Pattern Orientation=46.84  
Angle Between Sides=  
Center Pattern=false | (3), (9) |
| (4) | Pattern Type=WFC3-UVIS-DITHER-LINE  
Purpose=DITHER  
Number Of Points=2  
Point Spacing=0.145  
Line Spacing= | Coordinate Frame=POS-TARG  
Pattern Orientation=46.84  
Angle Between Sides=  
Center Pattern=false | (6), (12) |

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### Fixed Targets

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<tr>
<th>#</th>
<th>Name</th>
<th>Target Coordinates</th>
<th>Targ. Coord. Corrections</th>
<th>Fluxes</th>
<th>Miscellaneous</th>
</tr>
</thead>
</table>
| (1) | GRW+70D5824  
Alt Name1: PRIMARY | RA: 13 38 51.1700 (204.7132083d)  
Dec: +70 17 7.85 (70.28551d)  
Equinox: J2000 | Proper Motion RA: -0.0798 sec of time/yr  
Proper Motion Dec: -0.0262 arcsec/yr  
B-V = -9.0e-2 | Reference Frame: WFPC2 OBSERVATIONS |
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<tbody>
<tr>
<td>1</td>
<td>F218W-UVI</td>
<td>S1</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
<td>F218W</td>
<td>CR-SPLIT=NO; FLASH=12.</td>
<td>Pattern 2, Exps 1-1 in iteration 3 (03) (2)</td>
<td>17.6 Secs (70.4 Secs)</td>
<td>[I]</td>
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<tr>
<td>2</td>
<td>F225W-UVI</td>
<td>S1</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
<td>F225W</td>
<td>CR-SPLIT=NO; FLASH=12.</td>
<td>Pattern 2, Exps 2-2 in iteration 3 (03) (2)</td>
<td>6.3 Secs (25.2 Secs)</td>
<td>[I]</td>
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<tr>
<td>3</td>
<td>F275W-UVI</td>
<td>S1</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
<td>F275W</td>
<td>CR-SPLIT=NO; FLASH=12.</td>
<td>Pattern 3, Exps 3-3 in iteration 3 (03) (3)</td>
<td>6.0 Secs (18 Secs)</td>
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<tr>
<td>4</td>
<td>F336W-UVI</td>
<td>S1</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
<td>F336W</td>
<td>CR-SPLIT=NO; FLASH=12.</td>
<td>Pattern 4, Exps 6-6 in iteration 3 (03) (4)</td>
<td>1.3 Secs (2.6 Secs)</td>
<td>[I]</td>
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<tr>
<td>5</td>
<td>F438W-UVI</td>
<td>S1</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
<td>F438W</td>
<td>CR-SPLIT=NO; FLASH=12.</td>
<td>Pattern 4, Exps 9-9 in iteration 3 (03) (3)</td>
<td>6.0 Secs (18 Secs)</td>
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<tr>
<td>6</td>
<td>F606W-UVI</td>
<td>S1</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
<td>F606W</td>
<td>CR-SPLIT=NO; FLASH=12.</td>
<td>Pattern 4, Exps 12-12 in iteration 3 (03) (4)</td>
<td>6.2 Secs (12.4 Secs)</td>
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Proposal 14018 - iteration 3 (03) - WFC3/UVIS contamination and stability monitor
### Proposal 14018 - iteration 3 (03) - WFC3/UVIS contamination and stability monitor

<table>
<thead>
<tr>
<th>ID</th>
<th>Command</th>
<th>Details</th>
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<tr>
<td>13</td>
<td>GRW+70D5824</td>
<td>F300X</td>
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<tr>
<td></td>
<td>WFC3/UVIS, ACCUM, UVIS</td>
<td>AMP=D; POS TARG 0.0,-50.</td>
</tr>
<tr>
<td></td>
<td>SIZEAXIS2=768; CENTERAXIS2=10 26; FLASH=12.0</td>
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</tr>
<tr>
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<td>1.0 Secs (1 Secs)</td>
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</tr>
<tr>
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<td>1</td>
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</tbody>
</table>

**Comments:** Nominal "UVIS" aperture is ~10" above the chip gap on chip 1; a Y-postarg of about -50" places the target near the center of chip 2.

- SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).

| 14  | GRW+70D5824 | WFC3/UVIS, ACCUM, UVIS G280 |
|     | WFC3/UVIS | SIZEAXIS2=768; POS TARG 0.0,-50. |
|     | CENTERAXIS2=10 26; AMP=D; FLASH=12.0 |
|     | 40. Secs (40 Secs) |
|     | 1 |

**Comments:** Only "UVIS" aperture is allowed with G280, so a postarg is used to move the target to UVIS2. Nominal "UVIS" aperture is ~10" above the chip gap on chip 1; a Y-postarg of about -50" places the target near the center of chip 2.

- SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).
Visit Proposal 14018, iteration 4 (04), scheduling
Diagnostic Status: No Diagnostics
Scientific Instruments: WFC3/UVIS
Special Requirements: SCHED 50%; BETWEEN 17-FEB-2015:00:00:00 AND 20-MAR-2015:23:59:59
Comments: single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short f225w after pattern

Patterns

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Line Spacing= | Coordinate Frame=POS-TARG  
Pattern Orientation=46.84  
Angle Between Sides=  
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WFPC2 OBSERVATIONS |
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<td>1</td>
<td>F218W-UVI</td>
<td>(1) GRW+70D5824</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
<td>F218W</td>
<td>CR-SPLIT=NO; FLASH=12.</td>
<td>Pattern 2, Exps 1-1 in iteration 4 (04) (2)</td>
<td>17.6 Secs (70.4 Secs)</td>
<td>[I]</td>
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<tr>
<td>2</td>
<td>F225W-UVI</td>
<td>(1) GRW+70D5824</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
<td>F225W</td>
<td>CR-SPLIT=NO; FLASH=12.</td>
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<td>6.3 Secs (25.2 Secs)</td>
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<td>F275W-UVI</td>
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<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
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<td>6.0 Secs (18 Secs)</td>
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<td>CR-SPLIT=NO; FLASH=12.0</td>
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<td>F438W-UVI</td>
<td>(1) GRW+70D5824</td>
<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
<td>F438W</td>
<td>CR-SPLIT=NO; FLASH=12.0</td>
<td>Pattern 4, Exps 9-9 in iteration 4 (04) (3)</td>
<td>6.0 Secs (18 Secs)</td>
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<td>6</td>
<td>F606W-UVI</td>
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<td>WFC3/UVIS, ACCUM, UVIS1-C512A-SUB</td>
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<td>CR-SPLIT=NO; FLASH=12.</td>
<td>Pattern 4, Exps 12-12 in iteration 4 (04) (4)</td>
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<td>F218W-UVI</td>
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<td>WFC3/UVIS, ACCUM, UVIS2-C512C-SUB</td>
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<tr>
<td>8</td>
<td>F225W-UVI</td>
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<td>CR-SPLIT=NO; FLASH=12.0</td>
<td>Pattern 3, Exps 9-9 in iteration 4 (04) (3)</td>
<td>6.0 Secs (18 Secs)</td>
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<td>13</td>
<td>G280 refere image (F300X) subarray on chip 2</td>
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<td>GRW+70D5824 WFC3/UVIS, ACCUM, UVIS F300X AMP=D; POS TARG 0.0,-50.</td>
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<td>Comments: Nominal &quot;UVIS&quot; aperture is ~10&quot; above the chip gap on chip 1; a Y-postarg of about -50&quot; places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).</td>
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<td>14</td>
<td>G280 image, (1) GRW+70D5824 WFC3/UVIS, ACCUM, UVIS G280</td>
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<td>Comments: Only &quot;UVIS&quot; aperture is allowed with G280, so a postarg is used to move the target to UVIS2. Nominal &quot;UVIS&quot; aperture is ~10&quot; above the chip gap on chip 1; a Y-postarg of about -50&quot; places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).</td>
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## Proposal 14018, iteration 5 (05) - WFC3/UVIS contamination and stability monitor

**Visit**

- **Diagnosis Status:** No Diagnostics
- **Scientific Instruments:** WFC3/UVIS
- **Special Requirements:** SCHED 50%; BETWEEN 06-APR-2015:00:00:00 AND 12-APR-2015:23:59:59
- **Comments:** single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short f225w after pattern

### Patterns

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<th>#</th>
<th>Primary Pattern</th>
<th>Secondary Pattern</th>
<th>Exposures</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2)</td>
<td>Pattern Type=WFC3-UVIS-DITHER-BOX</td>
<td>Coordinate Frame=POS-TARG</td>
<td>(1), (2), (7), (8)</td>
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<tr>
<td></td>
<td>Purpose=DITHER</td>
<td>Pattern Orientation=23.884</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number Of Points=4</td>
<td>Angle Between Sides=81.785</td>
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<td>Center Pattern=false</td>
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</table>

| (3) | Pattern Type=WFC3-UVIS-DITHER-LINE-3PT | Coordinate Frame=POS-TARG | (3), (9) |
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|     | Point Spacing=0.135 | Center Pattern=false |           |
|     | Line Spacing= | |           |

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|     | Point Spacing=0.145 | Center Pattern=false |           |
|     | Line Spacing= | |           |

### Fixed Targets

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<td>Proper Motion RA: -0.0798 sec of time/yr</td>
<td>V=12.77</td>
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<td>13</td>
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<td>1.0 Secs (1 Secs)</td>
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<td>Comments: Nominal &quot;UVIS&quot; aperture is ~10&quot; above the chip gap on chip 1; a Y-postarg of about -50&quot; places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).</td>
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<td>14</td>
<td>G280 image, (1) GRW+70D5824 WFC3/UVIS, ACCUM, UVIS G280</td>
<td>40.0 Secs (40 Secs)</td>
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<td>Comments: Only &quot;UVIS&quot; aperture is allowed with G280, so a postarg is used to move the target to UVIS2. Nominal &quot;UVIS&quot; aperture is ~10&quot; above the chip gap on chip 1; a Y-postarg of about -50&quot; places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).</td>
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## Proposal 14018, iteration 6 (06) - WFC3/UVIS contamination and stability monitor

**Visit**

**Proposal 14018, iteration 6 (06), scheduling**

**Diagnostic Status:** No Diagnostics

**Scientific Instruments:** WFC3/UVIS

**Special Requirements:** SCHED 50%; BETWEEN 11-MAY-2015:00:00:00 AND 17-MAY-2015:23:59:59

**Comments:** single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short f225w after pattern

**Fri Nov 14 02:12:37 GMT 2014**

### Patterns

#### Primary Pattern

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<th>#</th>
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<th>Number Of Points</th>
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<th>Line Spacing</th>
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<th>Pattern Orientation</th>
<th>Angle Between Sides</th>
<th>Center Pattern</th>
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#### Exposures

- (1), (2), (7), (8)
- (3), (9)
- (6), (12)

### Fixed Targets

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<th>Name</th>
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<th>Fluxes</th>
<th>Miscellaneous</th>
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<td>(1)</td>
<td>GRW+70D5824</td>
<td>RA: 13 38 51.1700 (204.7132083d)</td>
<td>Proper Motion RA: -0.0798 sec of time/yr</td>
<td>V=12.77</td>
<td>Reference Frame: WFPC2 OBSERVATIONS</td>
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<td>Alt Name1: PRIMARY</td>
<td>Dec: +70 17 7.85 (70.28551d)</td>
<td>Proper Motion Dec: -0.0262 arcsec/yr</td>
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### Proposal 14018 - iteration 6 (06) - WFC3/UVIS contamination and stability monitor

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<td>G280 reference image (F300X) subarray on chip 2</td>
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<td>Comments: Nominal “UVIS” aperture is ~10” above the chip gap on chip 1; a Y-postarg of about -50” places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).</td>
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<td>G280</td>
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<td>Proper Motion Dec: -0.0262 arcsec/yr</td>
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**Visit**  
Proposal 14018, iteration 7 (07), scheduling  
Diagnostic Status: No Diagnostics  
Scientific Instruments: WFC3/UVIS  
Special Requirements: SCHED 50%; BETWEEN 15-JUN-2015:00:00:00 AND 21-JUN-2015:23:59:59  
Comments: single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short f225w after pattern

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<th>Secondary Pattern</th>
<th>Exposures</th>
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<td>Point Spacing=0.173</td>
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<td><strong>13</strong> G280 reference image (F300X) subarray on chip 2</td>
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<tr>
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<td>SIZEAXIS2=768; CENTERAXIS2=10 26; FLASH=12.0</td>
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<tr>
<td>1.0 Secs (1 Secs)</td>
<td>![Image 1]</td>
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<td>Comments: Nominal &quot;UVIS&quot; aperture is ~10&quot; above the chip gap on chip 1; a Y-postarg of about -50&quot; places the target near the center of chip 2.</td>
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<td>SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).</td>
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| **14** G280 image, (1) GRW+70D5824 WFC3/UVIS, ACCUM, UVIS G280            |
| GRW+70D5824 WFC3/UVIS, ACCUM, UVIS G280 SIZEAXIS2=768; POS TARG 0.0,-50. |
| CENTERAXIS2=10 26; AMP=D; FLASH=12.0                                      |
| 40. Secs (40 Secs)                                                        | ![Image 2] |
| Comments: Only "UVIS" aperture is allowed with G280, so a postarg is used to move the target to UVIS2. Nominal "UVIS" aperture is ~10" above the chip gap on chip 1; a Y-postarg of about -50" places the target near the center of chip 2. |
| SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934). |
Proposal 14018, iteration 8 (08), scheduling

Diagnostic Status: No Diagnostics
Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 50%; BETWEEN 20-JUL-2015:00:00:00 AND 26-JUL-2015:23:59:59

Comments: single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short f225w after pattern

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<th>Fluxes</th>
<th>Miscellaneous</th>
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<td>GRW+70D5824</td>
<td>RA: 13 38 51.1700 (204.7132083d)</td>
<td>Proper Motion RA: -0.0798 sec of time/yr V=12.77</td>
<td>Reference Frame: WFPC2 OBSERVATIONS</td>
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<td></td>
<td>Alt Name1: PRIMARY</td>
<td>Dec: +70 17 7.85 (70.28551d)</td>
<td>Proper Motion Dec: -0.0262 arcsec/yr B-V = -9.0e-2</td>
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<td>1</td>
<td>F218W-UVI</td>
<td>(1) GRW+70D5824</td>
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<td>F218W</td>
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<td>F218W</td>
<td>CR-SPLIT=NO; FLASH=12.</td>
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<td>CR-SPLIT=NO; FLASH=12.0</td>
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<td>5</td>
<td>F438W-UVI</td>
<td>(1) GRW+70D5824</td>
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<td>F438W</td>
<td>CR-SPLIT=NO; FLASH=12.</td>
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<td>6</td>
<td>F606W-UVI</td>
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<td>F218W-UVI</td>
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<td>9</td>
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<td>F438W</td>
<td>CR-SPLIT=NO; FLASH=12.0</td>
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Proposal 14018 - iteration 8 (08) - WFC3/UVIS contamination and stability monitor
### Proposal 14018 - iteration 8 (08) - WFC3/UVIS contamination and stability monitor

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<th>Proposal</th>
<th>Instrument</th>
<th>Description</th>
<th>Parameters</th>
<th>Comments</th>
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<td>(1) GRW+70D5824 WFC3/UVIS, ACCUM, UVIS F300X</td>
<td>AMP=D; POS TARG 0.0,-50. SIZEAXIS2=768; CENTERAXIS2=10 26; FLASH=12.0</td>
<td>Nominal &quot;UVIS&quot; aperture is ~10&quot; above the chip gap on chip 1; a Y-postarg of about -50&quot; places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).</td>
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<tr>
<td>14</td>
<td>G280 image</td>
<td>(1) GRW+70D5824 WFC3/UVIS, ACCUM, UVIS G280</td>
<td>SIZEAXIS2=768; POS TARG 0.0,-50. CENTERAXIS2=10 26; AMP=D; FLASH=12.0</td>
<td>Only &quot;UVIS&quot; aperture is allowed with G280, so a postarg is used to move the target to UVIS2. Nominal &quot;UVIS&quot; aperture is ~10&quot; above the chip gap on chip 1; a Y-postarg of about -50&quot; places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).</td>
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## Proposal 14018 - iteration 9 (09) - WFC3/UVIS contamination and stability monitor

**Visit**
- **Diagnosis Status:** No Diagnostics
- **Scientific Instruments:** WFC3/UVIS
- **Special Requirements:** SCHED 50%; BETWEEN 17-AUG-2015:00:00:00 AND 22-AUG-2015:23:59:59
- **Comments:** single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short f225w after pattern

### Patterns

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| | Line Spacing= | | |

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| | Point Spacing=0.145 | Center Pattern=false | |
| | Line Spacing= | | |

### Fixed Targets

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<td>GRW+70D5824</td>
<td>RA: 13 38 51.1700 (204.7132083d) Dec: +70 17 7.85 (70.28551d)</td>
<td>Proper Motion RA: -0.0798 sec of time/yr Proper Motion Dec: -0.0262 arcsec/yr Epoch of Position: 1991.25</td>
<td>V=12.77 B-V = -9.0e-2</td>
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Fri Nov 14 02:12:38 GMT 2014
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<td>12</td>
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<td>S2</td>
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### Proposal 14018 - iteration 9 (09) - WFC3/UVIS contamination and stability monitor

#### Table

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<thead>
<tr>
<th>ID</th>
<th>G280 reference image (F300X) subarray on chip 2</th>
<th>WFC3/UVIS, ACCUM, UVIS</th>
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<tr>
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**Comments:** Nominal "UVIS" aperture is ~10" above the chip gap on chip 1; a Y-postarg of about -50" places the target near the center of chip 2.

*SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).*

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**Comments:** Only "UVIS" aperture is allowed with G280, so a postarg is used to move the target to UVIS2. Nominal "UVIS" aperture is ~10" above the chip gap on chip 1; a Y-postarg of about -50" places the target near the center of chip 2.

*SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).*
Proposal 14018 - iteration 10 (10) - WFC3/UVIS contamination and stability monitor

Visit 10

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 50%; BETWEEN 28-SEP-2015:00:00:00 AND 04-OCT-2015:23:59:59

Comments: single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short f225w after pattern

Patterns

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<thead>
<tr>
<th>#</th>
<th>Primary Pattern</th>
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<th>Exposures</th>
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Fixed Targets

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<th>Target Coordinates</th>
<th>Targ. Coord. Corrections</th>
<th>Fluxes</th>
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<td>RA: 13 38 51.1700 (204.7132083d) Dec: +70 17 7.85 (70.28551d)</td>
<td>Proper Motion RA: -0.0798 sec of time/yr Proper Motion Dec: -0.0262 arcsec/yr</td>
<td>V=12.77 B-V = -9.0e-2</td>
<td>Reference Frame: WFPC2 OBSERVATIONS</td>
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</table>
Comments: Nominal "UVIS" aperture is ~10" above the chip gap on chip 1; a Y-postarg of about -50" places the target near the center of chip 2.

SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).

Comments: Only "UVIS" aperture is allowed with G280, so a postarg is used to move the target to UVIS2. Nominal "UVIS" aperture is ~10" above the chip gap on chip 1; a Y-postarg of about -50" places the target near the center of chip 2.

SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).
Proposal 14018, iteration 10 (11), scheduling
Diagnostic Status: No Diagnostics
Scientific Instruments: WFC3/UVIS
Special Requirements: SCHED 50%; BETWEEN 02-NOV-2015:00:00:00 AND 08-NOV-2015:23:59:59
Comments: single orbit covering UVIS1, UVIS2, and grisms from both channels plus 2 short f225w after pattern

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<th>Fixed Targets</th>
<th>#</th>
<th>Name</th>
<th>Target Coordinates</th>
<th>Targ. Coord. Corrections</th>
<th>Fluxes</th>
<th>Miscellaneous</th>
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<tr>
<td>(1)</td>
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<td>GRW+70D5824</td>
<td>RA: 13 38 51.1700 (204.7132083d) Dec: +70 17 7.85 (70.28551d)</td>
<td>Proper Motion RA: -0.0798 sec of time/yr Proper Motion Dec: -0.0262 arcsec/yr Epoch of Position: 1991.25</td>
<td>V=12.77 B-V = -9.0e-2</td>
<td>Reference Frame: WFPC2 OBSERVATIONS</td>
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<td>CR-SPLIT=NO; FLASH=12.0</td>
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<td>5</td>
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**Proposal 14018 - iteration 10 (11) - WFC3/UVIS contamination and stability monitor**
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<th></th>
<th>G280 reference image (F300X) subarray on chip 2</th>
<th>G280 image, (1) GRW+70D5824</th>
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<td>WFC3/UVIS, ACCUM, UVIS G280</td>
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<td>1.0 Secs (1 Secs)</td>
<td>40. Secs (40 Secs)</td>
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Comments: Nominal "UVIS" aperture is ~10" above the chip gap on chip 1; a Y-postarg of about -50" places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).

Comments: Only "UVIS" aperture is allowed with G280, so a postarg is used to move the target to UVIS2. Nominal "UVIS" aperture is ~10" above the chip gap on chip 1; a Y-postarg of about -50" places the target near the center of chip 2. SIZEAXIS2=768 is used to minimize data volume, while CENTERAXIS2 is used to center the subarray readout on the target location. The latter is set to 1026, to place the vertical center of the subarray at the vertical center of chip 2. These parameters are based upon similar observations obtained successfully in Cycle 17 (proposal 11934).
Proposal 14018 - iteration 10 (11) - WFC3/UVIS contamination and stability monitor
### Proposal 14018 - GRW, non-standard filters, amp A (15) - WFC3/UVIS contamination and stability monitor

#### Visit
- Proposal 14018, GRW, non-standard filters, amp A (15)
- Diagnostic Status: No Diagnostics
- Scientific Instruments: WFC3/UVIS
- Special Requirements: BETWEEN 22-DEC-2014:00:00:00 AND 28-DEC-2014:00:00:00; BETWEEN 26-JAN-2015:00:00:00 AND 01-FEB-2015:00:00:00; GROUP 15,16 WITHIN 2D

#### Patterns
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<th>#</th>
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<th>Secondary Pattern</th>
<th>Exposures</th>
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| Number Of Points=2 | Angle Between Sides= |
| Point Spacing=0.145 | Center Pattern=false |
| Line Spacing= |

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<td>Proper Motion RA: -0.0798 sec of time/yr Proper Motion Dec: -0.0262 arcsec/yr</td>
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Fri Nov 14 02:12:38 GMT 2014
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Proposal 14018 - GRW, non-standard filters, amp A (15) - WFC3/UVIS contamination and stability monitor
### Proposal 14018 - GRW, non-standard filters, amp C (16) - WFC3/UVIS contamination and stability monitor

Visit

- **Proposal 14018, GRW, non-standard filters, amp C (16)**
- **Diagnostic Status: No Diagnostics**
- **Scientific Instruments: WFC3/UVIS**
- **Special Requirements: BETWEEN 22-DEC-2014:00:00:00 AND 28-DEC-2014:00:00:00; BETWEEN 26-JAN-2015:00:00:00 AND 01-FEB-2015:00:00:00**

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<td>Proper Motion RA: -0.0798 sec of time/yr Proper Motion Dec: -0.0262 arcsec/yr</td>
<td>V=12.77 B-V = -9.0e-2</td>
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<td><strong>Detector</strong></td>
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- **Diagnostic Status:** No Diagnostics
- **Scientific Instruments:** WFC3/UVIS
- **Special Requirements:** BEFORE 15-FEB-2015:00:00:00; SEQ 21,23,25 WITHIN 1.5 D
- **Comments:** Exposures grouped by filter wheel.

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Fixed Targets

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Comments: white dwarf standard star
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Visit

- **Diagnostic Status:** No Diagnostics
- **Scientific Instruments:** WFC3/UVIS
- **Special Requirements:** (none)
- **Comments:** Exposures grouped by filter wheel.

Patterns

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Fixed Targets

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<th>Targ. Coord. Corrections</th>
<th>Fluxes</th>
<th>Miscellaneous</th>
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<tbody>
<tr>
<td>(2)</td>
<td>G191B2B</td>
<td>RA: 05 05 30.6700 (76.3777917d)</td>
<td>Proper Motion RA: 0.0007 sec of time/yr</td>
<td>V=11.78±0.01</td>
<td>Reference Frame: ICRS</td>
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<td>Dec: +52 49 51.95 (52.83110d)</td>
<td>Proper Motion Dec: -0.0907 arcsec/yr</td>
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**Comments:** white dwarf standard star
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<td>Pattern 2, Exps 1-1 i n G191B2B mixed orbit (A &amp; C amps) (2 3) (2)</td>
<td>1.3 Secs (5.2 Secs)</td>
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<td>Pattern 3, Exps 4-4 i n G191B2B mixed orbit (A &amp; C amps) (2 3) (3)</td>
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**Visit**
- **Proposal 14018, G191B2B - C amp - 2 orbits (25)**
- **Diagnostic Status:** No Diagnostics
- **Scientific Instruments:** WFC3/UVIS
- **Special Requirements:** (none)
- **Comments:** Exposures grouped by filter wheel.

#### Patterns
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<td>Proper Motion RA: 0.0007 sec of time/yr Proper Motion Dec: -0.0907 arcsec/yr</td>
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**Comments:** white dwarf standard star
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