### 16976 - ACS Internal Flat Fields

Cycle: 30, Proposal Category: CAL/ACS  
(Availability Mode: RESTRICTED)

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<tr>
<th>Name</th>
<th>Institution</th>
<th>E-Mail</th>
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</thead>
<tbody>
<tr>
<td>Yotam Cohen (PI) (Contact)</td>
<td>Space Telescope Science Institute</td>
<td><a href="mailto:ycohen@stsci.edu">ycohen@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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ABSTRACT
The stability of the CCD flat fields will be monitored using the calibration lamps. One set of observations for all the filters and another at a different epoch for a subset of filters will be taken during this cycle. High signal observations will be used to assess the stability of the pixel-to-pixel flat field structure, to analyze image artifacts such as the newly discovered flecks, and to monitor the position of the dust motes.

OBSERVING DESCRIPTION
Internal flats will be obtained for the WFC detector using the tungsten lamp. One set of internal flats will be obtained for the entire filter set about 2-3 months into the cycle. Another set will be obtained using a subset of filters (F435W, F625W, F814W, and F850LP) about 6 months after the first set. High signal observations will be used to assess the stability of the pixel-to-pixel flat field structure, to analyze image artifacts such as the newly discovered flecks, and to monitor the presence of dust motes. Any changes in time of P-flats will also be tracked.

Note: Due to increases in exposure time to account for lamp dimming, orbits have now exceeded the 1800 second recommended maximum. To mitigate this overrun, last cycle, we changed the program design such that we shifted singletons of the longer exposures into adjacent filters' orbits and vice-versa.

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

Results from this program will impact the standard flat field calibration files included in the pipeline. The accuracy of the flat field calibration is expected to be better than 1% for WFC broadband filters.
Proposal 16976 - Visit 01 - ACS Internal Flat Fields

Visit
Proposal 16976, Visit 01, implementation
Diagnostic Status: No Diagnostics
Scientific Instruments: ACS/WFC
Special Requirements: BETWEEN 01-DEC-2022:00:00:00 AND 01-JAN-2023:00:00:00

Tue Aug 23 19:03:10 GMT 2022

Exposures

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<td>16.9 Secs X 3 (50.7 Secs)</td>
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Orbit Structure

Server Version: 20220630
Proposal 16976 - Visit 02 - ACS Internal Flat Fields

Visit
Proposal 16976, Visit 02, implementation
Diagnostic Status: No Diagnostics
Scientific Instruments: ACS/WFC
Special Requirements: BETWEEN 01-DEC-2022:00:00:00 AND 01-JAN-2023:00:00:00

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Orbit Structure

Server Version: 20220630
### Proposal 16976 - Visit 03 - ACS Internal Flat Fields

**Visit**
- Proposal 16976, Visit 03, implementation
- Diagnostic Status: No Diagnostics
- Scientific Instruments: ACS/WFC
- Special Requirements: BETWEEN 01-DEC-2022:00:00:00 AND 01-JAN-2023:00:00:00

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<td>1.9 Secs (1.9 Secs)</td>
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**Orbit Structure**

- Unused Orbital Visibility = 3142
- Exp. 1, copy 1
- Exp. 2
- Occultation

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*Server Version: 20220630*
Proposal 16976 - Visit 04 - ACS Internal Flat Fields

Visit
Proposal 16976, Visit 04, implementation
Diagnostic Status: No Diagnostics
Scientific Instruments: ACS/WFC
Special Requirements: BETWEEN 01-DEC-2022:00:00:00 AND 01-JAN-2023:00:00:00

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Orbit Structure

Orbit 1
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Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Occultation
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### Orbit Structure

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- Unused Orbital Visibility = 3142
- Exp. 1, copy 1
- Exp. 1, copy 2
- Exp. 1, copy 3
- Occultation

**Server Version: 20220630**
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<td>ACS/WFC, ACCUM, WFC</td>
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<td>606</td>
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<td>1.9 Secs X 2 (3.8 Secs)</td>
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### Orbit Structure

**unused orbital visibility = 3142**

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Exp. 2, copy 1

Exp. 2, copy 2

Occultation

Server Version: 20220630
Proposal 16976 - Visit 07 - ACS Internal Flat Fields

Visit
- Proposal 16976, Visit 07, implementation
- Diagnostic Status: No Diagnostics
- Scientific Instruments: ACS/WFC
- Special Requirements: BETWEEN 01-DEC-2022:00:00:00 AND 01-JAN-2023:00:00:00

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**Orbit Structure**

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Exp. 1, copy 3
Occultation

Server Version: 20220630
Proposal 16976 - Visit 08 - ACS Internal Flat Fields

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**Orbit Structure**

Unused Orbital Visibility = 3142

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Exp. 1, copy 3

Occultation

Server Version: 20220630
Proposal 16976 - Visit 09 - ACS Internal Flat Fields

Visit 09 - Proposal 16976

Diagnostic Status: Warning
Scientific Instruments: ACS/WFC
Special Requirements: BETWEEN 01-DEC-2022:00:00:00 AND 01-JAN-2023:00:00:00

(Visit 09) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

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<td>2.9 Secs (2.9 Secs)</td>
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Orbit Structure

Unused Orbital Visibility = 3142

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Exp. 1, copy 2 Exp. 2

Occultation

Server Version: 20220630
Proposal 16976 - Visit 10 - ACS Internal Flat Fields

Visit
Proposal 16976, Visit 10, implementation
Diagnostic Status: No Diagnostics
Scientific Instruments: ACS/WFC
Special Requirements: BETWEEN 01-DEC-2022:00:00:00 AND 01-JAN-2023:00:00:00

Exposures

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Orbit Structure

Orbit 1
Unused Orbital Visibility = 3142
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Occultation
### Proposal 16976 - Visit 11 - ACS Internal Flat Fields

**Visit Details**
- Proposal 16976, Visit 11, implementation
- Diagnostic Status: No Diagnostics
- Scientific Instruments: ACS/WFC
- Special Requirements: BETWEEN 01-DEC-2022:00:00:00 AND 01-JAN-2023:00:00:00

**Exposures**

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<td>ACS/WFC, ACCUM, WFC</td>
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<td>![Exp. Time](2.9 Secs X 2 (5.8 Secs))</td>
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**Orbit Structure**

- Unused Orbital Visibility = 3142
- Exp. 1
- Exp. 2, copy 1
- Exp. 2, copy 2
- Occultation

*Server Version: 20220630*
Proposal 16976 - Visit 12 - ACS Internal Flat Fields

Visit Diagnostic Status: No Diagnostics
Scientific Instruments: ACS/WFC
Special Requirements: BETWEEN 01-DEC-2022:00:00:00 AND 01-JAN-2023:00:00:00

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Orbit Structure

Unused Orbital Visibility = 3142
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 1, copy 3
Occultation

Server Version: 20220630
Proposal 16976 - Visit 13 - ACS Internal Flat Fields

Visit
Proposal 16976, Visit 13, implementation
Diagnostic Status: No Diagnostics
Scientific Instruments: ACS/WFC
Special Requirements: BETWEEN 01-JUN-2023:00:00:00 AND 01-JUL-2023:00:00:00

Exposures

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Orbit Structure

Unused Orbital Visibility = 3142

Exp. 1, copy 2
Exp. 1, copy 3

Occultation

Server Version: 20220630
# Proposal 16976 - Visit 14 - ACS Internal Flat Fields

## Visit Details
- **Proposal 16976, Visit 14, implementation**
- **Diagnostic Status:** No Diagnostics
- **Scientific Instruments:** ACS/WFC
- **Special Requirements:** BETWEEN 01-JUN-2023:00:00:00 AND 01-JUL-2023:00:00:00

## Exposures

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<td>3.1 Secs X 3 (9.3 Secs)</td>
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## Orbit Structure

- **Orbit 1**
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  - Exp. 1, copy 3
  - Occultation

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**Server Version:** 20220630
### Proposal 16976 - Visit 15 - ACS Internal Flat Fields

**Visit**
- Proposal 16976, Visit 15, implementation
- Diagnostic Status: No Diagnostics
- Scientific Instruments: ACS/WFC
- Special Requirements: BETWEEN 01-JUN-2023:00:00:00 AND 01-JUL-2023:00:00:00

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<tbody>
<tr>
<td>1</td>
<td>814_second</td>
<td>TUNGSTEN</td>
<td>ACS/WFC, ACCUM, WFC</td>
<td>F814W</td>
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<td>2.9 Secs X 3 (8.7 Secs)</td>
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**Orbit Structure**

- Orbit 1
  - Unused Orbital Visibility = 3142
  - Exp. 1, copy 1
  - Exp. 1, copy 2
  - Exp. 1, copy 3
  - Occultation

Server Version: 20220630
## Proposal 16976 - Visit 16 - ACS Internal Flat Fields

**Visit Diagnostic Status:** No Diagnostics  
**Scientific Instruments:** ACS/WFC  
**Special Requirements:** BETWEEN 01-JUN-2023:00:00:00 AND 01-JUL-2023:00:00:00

### Exposures

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<tbody>
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<td>F850LP</td>
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<td>4.5 Secs X 3 (13.5 Secs)</td>
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**Orbit Structure**

- Unused Orbital Visibility = 3142
- Exp. 1, copy 1
- Exp. 1, copy 2
- Exp. 1, copy 3
- Occultation

**Server Version:** 20220630