ABSTRACT
The purpose of this program is to empirically determine the commanding overheads for WFC subarray modes, both unflashed and post-flashed. The commanding overheads are small periods of time, beyond the exposure time and any post-flash duration, over which dark current accrues. Though small, they impact dark correction and the pixel-based CTE model parameters.
Previous work on this topic used hot pixels in a small number of very short, unflashed subarray darks. The post-flashed subarray overheads were bootstrapped from full-frame overheads. Hot pixels are now known to fade with exposure time, and their dark rates are most uncertain/variable at short exposure times. We therefore wish to re-determine the empirical commanding overheads by obtaining 32 subarray dark frames with ~340s darktime, half of which will be post-flashed to ~55 e-. We will correct the hot pixels in these frames for their fading rates, using other data, to more accurately determine the commanding overheads.

We will take 16 subarray dark frames with 337s exposure time and no post-flash, using the WFC1B-1K. We will also take an identical set of subarray darks with 55e- post-flash.

All of the observations should be taken during the same anneal period and preferably within two days in order to avoid the appearance of many unstable hot pixels. The intent is for this CAL program to be scheduled nearly immediately (with the SMS currently being built) to help fill unused internal orbits during HST's return to science with ACS.

**OBSERVING DESCRIPTION**

We will take 16 subarray dark frames with 337s exposure time and no post-flash, using the WFC1B-1K. We will also take an identical set of subarray darks with 55e- post-flash. All of the observations should be taken during the same anneal period and preferably within two days in order to avoid the appearance of many unstable hot pixels.

The intent is for this CAL program to be scheduled nearly immediately (with the SMS currently being built) to help fill unused internal orbits during HST's return to science with ACS.
**Proposal 16893 - Visit 01 - Commanding Overheads for ACS/WFC Subarrays**

### Visit
- **Proposal 16893, Visit 01**
- **Diagnostic Status:** Warning
- **Scientific Instruments:** ACS/WFC
- **Special Requirements:** SEQ 01,02,03,04,05,06,07,08 WITHIN 2 D

### Diagnostics
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- Exp. 1, copy 3
- Exp. 1, copy 4
- Occultation
Diagnostics

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Orbit 1

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Occultation

Server Version: 20210514
**Visit 04**

**Diagnostic Status:** Warning

**Scientific Instruments:** ACS/WFC

**Special Requirements:** (none)

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

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Occultation

*Server Version: 20210514*
Proposal 16893 - Visit 05 - Commanding Overheads for ACS/WFC Subarrays

Visit
Proposal 16893, Visit 05
Diagnostic Status: Warning
Scientific Instruments: ACS/WFC
Special Requirements: (none)

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Server Version: 20210514
Proposal 16893 - Visit 06 - Commanding Overheads for ACS/WFC Subarrays

Visit
Proposal 16893, Visit 06
Diagnostic Status: Warning
Scientific Instruments: ACS/WFC
Special Requirements: (none)

Diagnostics
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Occultation

Server Version: 20210514
Proposal 16893 - Visit 07 - Commanding Overheads for ACS/WFC Subarrays

Visit
Proposal 16893, Visit 07
Diagnostic Status: Warning
Scientific Instruments: ACS/WFC
Special Requirements: (none)

Diagnostics
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Server Version: 20210514
Proposal 16893 - Visit 08 - Commanding Overheads for ACS/WFC Subarrays

Visit

Proposal 16893, Visit 08
Diagnostic Status: Warning
Scientific Instruments: ACS/WFC
Special Requirements: (none)

Diagnostics

(Visit 08) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU

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