HST INS Work Item Data Sheet

1. SI/Title: STIS/MAMA Dark Monitor

2. INS Lead: L. Dressel

3. Description of Work:
   This activity involves the measurement of the dark current levels of the two MAMA detectors, which have been taken twice a week for each detector. The NUV-MAMA dark data taken over the years will be assembled together to determine final functional forms of the global dark current levels as a function of time, tube temperature, and charge amplifier temperature. These scaling functions will be implemented into the STIS calibration pipeline (CALSTIS), involving new reference files as well as a code change. In the case of the FUV-MAMA detector, additional work is needed to determine a better parametrization of the dark level in the "glow" region of the detector. We already have a good idea on this from earlier preparation work, namely to parametrize the FUV-MAMA dark level as a function of the time elapsed since the high-voltage was turned on. For a "heritage" instrument, this can be implemented by delivering a reference table containing the turn-on times, or as a post-observation tool using another proxy that is dependent on the time elapsed since the high-voltage was turned on, e.g., the intensity level of hot pixels. These findings will be written up as two ISRs.

4. Schedule Constraints and Dependencies:

5. Risks and Open Issues:

6. Priority: High

7. Priority Justification:

8. Resources (including estimated calendar duration for each portion):
   a. Requirements
      STIS Instrument Scientist

   b. Development
      STIS Instrument Scientist
      CALSTIS Developer
      CDBS Administrator

   c. Testing
      STIS Instrument Scientist
      CALSTIS Test Engineer
      CDBS Administrator

9. Documentation and Deliverables:
   Calibration ISRs
   CDBS Reference File Delivery
   CALSTIS Code Delivery
   Test Report(s)