

HST INS Work Item Data Sheet

1. SI/Title: Tweakshift/New Shift Algorithm
2. INS Lead: Anton Koekemoer
3. Description of Work:

Tweakshift is the code that determines the shifts each of the images in a set needs to incorporate in order to be aligned with either the first image in the set or with a user-specified catalog's WCS. The general Tweakshift code is currently in a beta release as a stand-alone STSDAS package, and community feedback is being sought. Develop and implement a new algorithm for computing the required image shifts (e.g., wavelets).
4. Schedule Constraints and Dependencies:

User feedback should continue for a few more months, correcting problems that are reported. The next release of the software should be next spring (2006).

The Hubble Legacy Archive requires these capabilities.
5. Risks and Open Issues:

Risk – User feedback could identify problems requiring unexpectedly high resources.

Risk – The new algorithm may not work even after spending considerable effort in developing it, or it may work only in very limited conditions.

Open Issue – New algorithm is undefined as of now, and considerable effort may be required to develop it.
6. Priority: High
7. Priority Justification:

These work items will enable more science due to better-aligned exposures.
8. Resources (including estimated calendar duration for each portion):
 - a. Requirements
 - Instrument Scientists
 - STSDAS Developer
 - b. Development
 - STSDAS Developer
 - c. Testing
 - Instrument Scientists
 - Data Analysts
 - STSDAS Test Engineer
9. Documentation and Deliverables:
 - STSDAS Code Deliveries
 - Data Handbook Updates

