Prototype development for a *Hubble* Legacy Archive

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The Space Telescope Science Institute (STScI), in collaboration with the European Coordinating Facility (ECF), and the Canadian Astronomy Data Centre (CADC), is studying the development of an enhanced archive for the *Hubble Space Telescope* (*HST*), with the goal of improving the scientific value of the data. The primary enhancements would be:

(*a*) making HST data VO compatible;

(*b*) improving the science products for the legacy instruments, e.g., providing CR-rejected multi-drizzled images for the *HST*-wfpc2;

(*c*) providing 'real time' access to the data;

(*d*) adding a cutout service for super-fast access;

(*e*) providing more extensive 'composite images', e.g., stacked images, mosaics, . . . ;

(*f*) improving absolute astrometry by a factor of $\simeq 10$, i.e., from $1'' - 2''$ to $< 0''.2$;

(*g*) adding a footprint service to make it easier to browse and download images;

(*h*) developing source catalogs for many datasets.

The current *HST* archive is organized as a collection of datasets as observed by the telescope. The *Hubble* Legacy Archive will use a sky atlas approach; combining the various datasets into higher level products in various ways. At the top level will be mosaics that combine all data sets of a given target to achieve the widest possible field of view. Below that will be stacked images that provide the deepest possible images of a single instrument field of view. The next level will be single-epoch stacked images that allow time-resolution. The final level will be single exposures similar to what is available from the current *HST* archive.

The project will use existing methodologies as much as possible due to the limited manpower available at this time. In addition, products and capabilities will be introduced in phases beginning with beta testing several of the prototypes in the fall of 2006. The goal is to provide a significant fraction of the current *HST* archives starting with the most popular instruments (e.g., acs, wfpc2, nicmos, stis). We will not attempt completenes (e.g., inclusion of the first generation instruments). See Jenkner *et al.* (2006, ASP-CS 351, 406) for a more detailed description of the project.