The National Virtual Observatory and HST

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Toward a “new astronomy”

The Virtual Observatory is a collection of interoperating data archives and software tools that utilize the Internet to provide an environment for research in astronomy.
Toward a “new astronomy”

• The primary goal of the VO is to enable correlative studies of large, distributed data collections.
Threads of the VO fabric

Multiwavelength astrophysics

Archival Research

Survey astronomy

Temporal astronomy
VO data access and HST

- Cone Search for observation catalogs
- Simple Image Access Protocol for quick-look images and legacy programs
- Simple Spectral Access Protocol for spectrographs and SEDs
- SkyNodes for databases of object catalogs (HDF, UDF, GOODS, et al.)
HST legacy archive and VO

• Immediate access to calibrated data
  – Associations, visit-based
  – No latency
  – Data recalibrated as necessary, in advance of requests
  – Support for cut-outs, thumbnails
  – Transform user’s view of HST archive to sky atlas

• Improved astrometry to simplify data comparison

• Footprint services (precise sky coverage)

• Object catalogs with links to spectrum

• Find moving targets given ephemeris
Tiered system

Users

Commonly formatted data and metadata, sky atlas view

New Public Archive

High level products, source catalogs

Archive Generation System

Calibrated data and metadata

DADS
Features, benefits

- DADS is unchanged
- VO compatibility is almost automatic
- Data access is more efficient
- Lower potential barrier for use of HST data
- Expert mode of access remains available
Summary

• NVO infrastructure now quite mature
• HST legacy archive plans focus on improved data quality, high level products, and ease of access
• HST legacy archive provides VO compatibility at minimal cost