Public Use of HST through the MAST Archive

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Audience - who are they?
Non specialists
Educators, librarians, tech-savvy creators
Amateurs, Citizen Scientists
Students, general public

User needs
Quick response
Easy, simple access
Current data and information
Resources related to “hot science news”

The Problem
How do our audiences quickly find the data they want?

Audience: astronomy topics, context
- colliding galaxies; nebulae; quasars

Astronomical archives
organized by target, coordinate
M51, NGC3603; Abell2218; 01:33:45, 30:39:00

Our approach: data curation
Step 1: Build the Press Release database into the science archive
- Design includes all metatags,
--- links to image repository
--- links to ancillary files and information
--- links to observatory specific fields and links

Step 2: Create tagged images
- Start with Press Release (PR) images
- Solve for World Coordinate System
--- a) use automated process
   (e.g., astrometry.net)
   = compares image to catalog grid
   or
--- b) use manual process (e.g., pinpoint)
   = user compares image to science image with existing valid WCS
- Save file with WCS and other FITS info

Step 3: Provide AVM descriptors in images
Astronomy Visualization Metatags
- Save tagged images to repository
- Populate database with metatags, links, and other relevant fields
- Include links to science data and relationships with other data

Technical Result
Database - fully tagged, linked
VO compliant
Available through archives & ADS
RSS feed to image directories (e.g., IPAC image registry)
Callable through custom interfaces

Practical Usage
Informal science exhibits/ visualization
Citizen science
Online interactive
Student research
Curriculum support

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