



MAST
Users
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Meeting

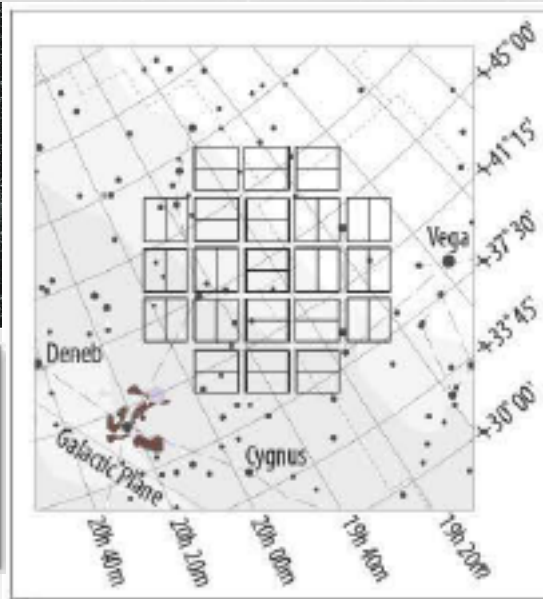
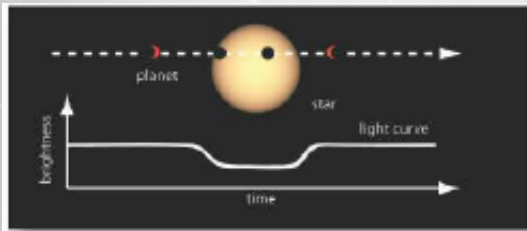
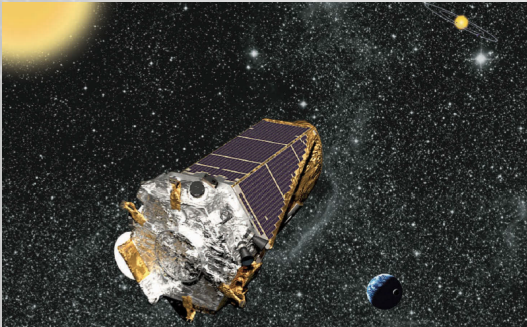
Dec 2,
2014

Kepler / K2 / GALEX

Current Status
and
Future Updates

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Kepler – Mission Description and Current Status



- Two modes: short and long cadence (SLC, LLC).
- Variety of FITS files (LC, TPF, FFI).
- Primary mission ended in May 2013 with the loss of a second reaction wheel.
- All data products from Q0 – Q17 are available at MAST. NExSci tables synced regularly.



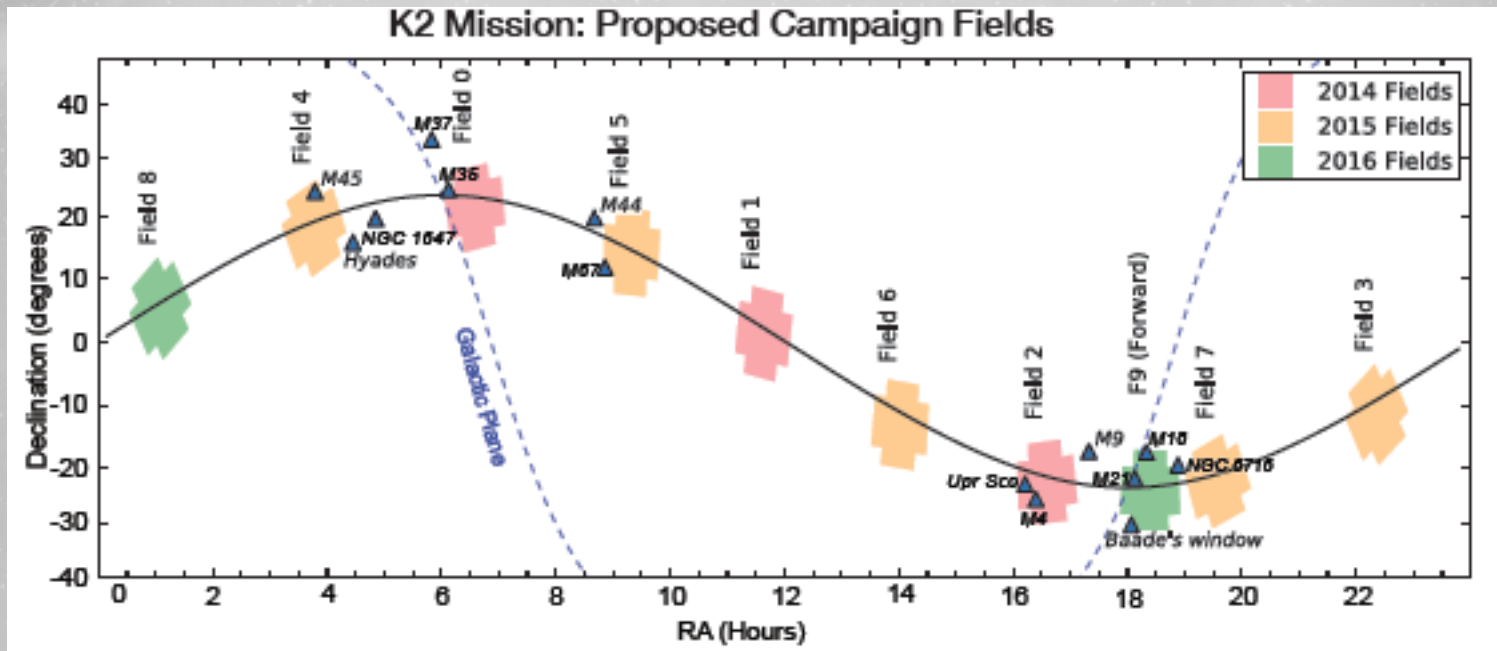
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Kepler – Future Updates

- Kepler closeout activities happening now through 2017.
- Next delivery will be SOC v9.2 (ongoing). This includes all data from Q0-Q17 processed uniformly. Delivered in groups of Quarters (not sequential), LLC only to begin with (SLC and FFI Spring 2015).
- *Future delivery plans are fluid.* SOC v9.3.1 will include additional flags, calibration techniques, more automation of candidates. Summer 2016.
- Handbooks will get final editions. Software doc. included!

K2 – Mission Description



- 75-days per “campaign”, fields lie along the ecliptic, enables more science (stellar clusters, solar system objects, Baade’s Window).
- Program is all GO, phot. precision is still pretty good (~400 ppm vs. ~100 ppm).



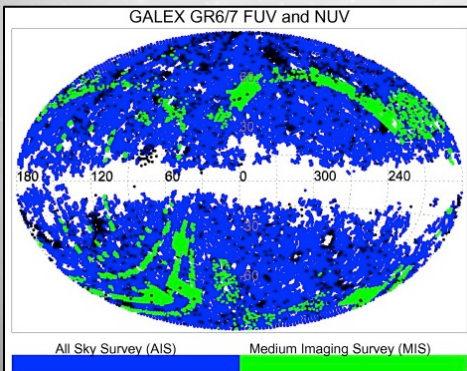
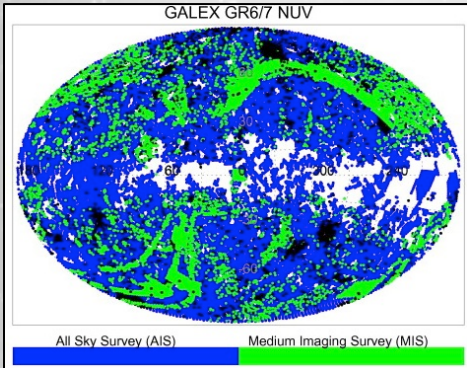
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K2 – Current Status

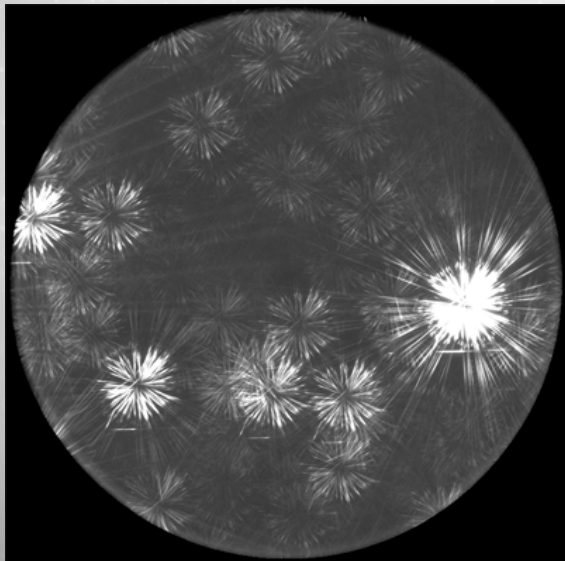
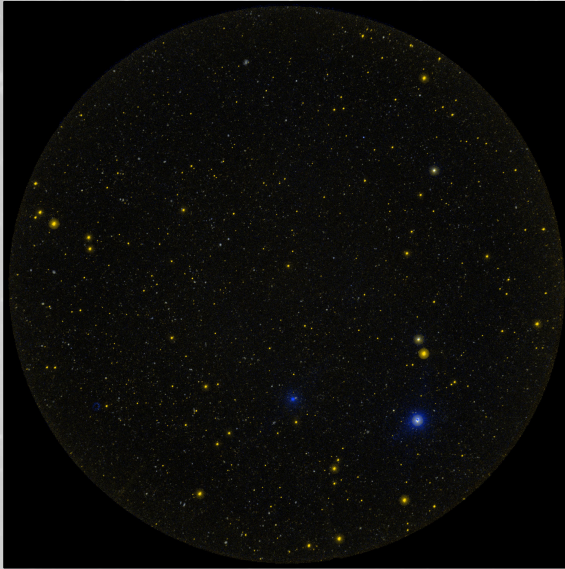
- Target catalog (EPIC) generated for each campaign and delivered to NExSci/MAST (up to Campaign 7 currently).
- Target Pixel Files (TPF) delivered for Campaign 0.
- Extracted lightcurves will be delivered starting in Campaign 3. The mission might not re-process Campaign {0,1,2} to extract lightcurves depending on resource availability.
- Tools like PyKE can be used to extract lightcurves.
- Without extracted lightcurves, there are also no Preview images at MAST (unless contributed).

GALEX – Mission Description



- Launched 28 April 2003
- Retired 28 June 2013
- 1.2 deg. diameter FoV
- 1350-1750 Å and 1750-2750 Å
- Phot. (5-6" resolution)
- Spec. (R ~ 100-250)
- Microchannel Plate Detector
- Records photon event positions
- Multiple Surveys: AIS, MIS, DIS, NGS, GII

GALEX – Current Status



Available (Image) Products

- Raw data
- Visit and Coadd Intensity Maps (images)
- Calibration Products (e.g., background)
- SExtractor Source Lists

Available (Spectral) Products

- Spectral Images
- Extracted Spectra
- Calibration Products



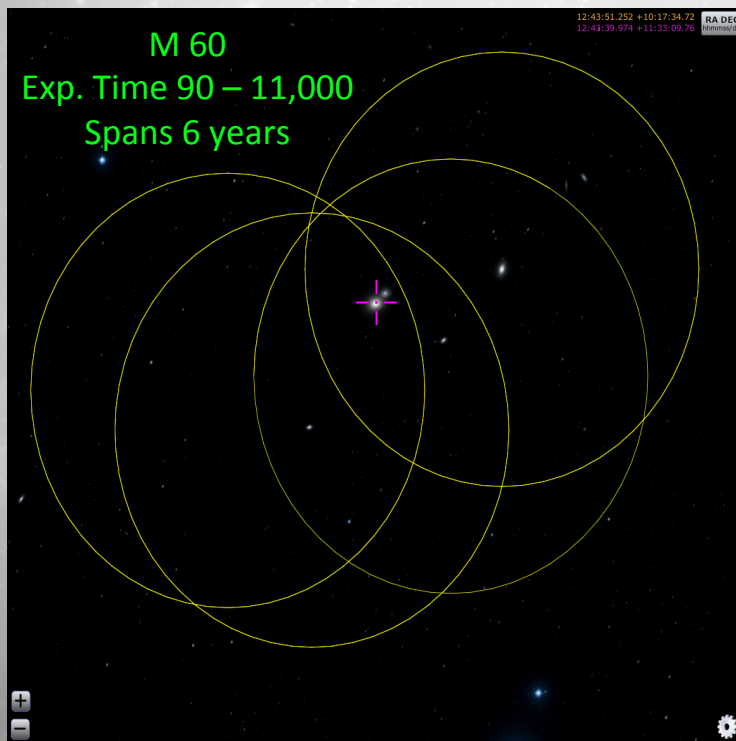
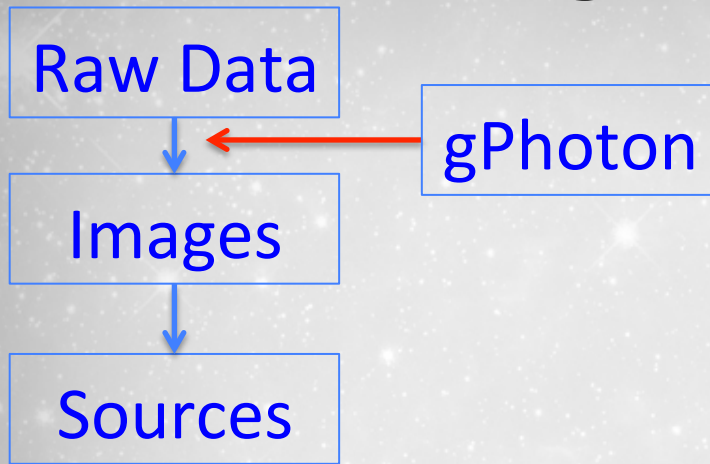
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GALEX – Future Updates

- All NASA-era GALEX data available at MAST (GR7)
- The final ~18 months controlled by CalTech (CAUSE era). Most of that data not released yet.
- CAUSE data poorer quality, some not fully processed, some taken using novel observing modes. Also, no real demand for it.
- Minor housekeeping (but not minor in req. resources): organize raw+cal dat for GR7+CAUSE, update doc., capture external website content.
- First release of gPhoton: a time-tagged database of GALEX photon events

gPhoton



- Open Source (python, git).
- Create lightcurves, data cubes, calibrated images.
- Can do so at user-specified spatial and temporal scales.
- Re-implement most of the GALEX mission pipeline functionality.
- Paper in prep. to coincide with v1.0 release.



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gPhoton

