dif-c-mri-5-epoxi-hartley2-photom-v1.0

Matthew Knight (lead reviewer)

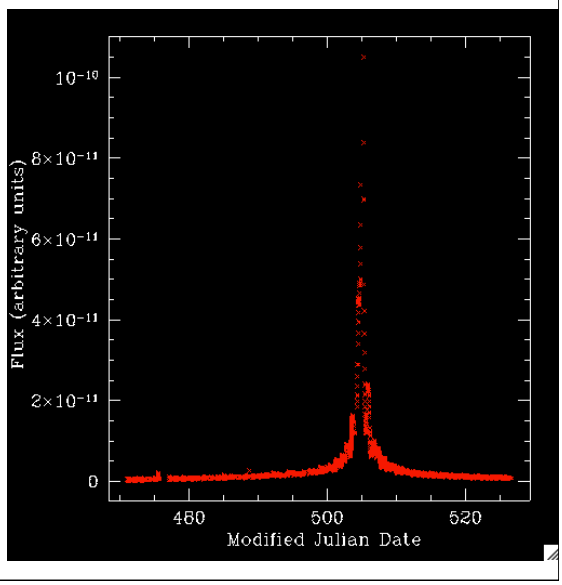
10:15 AM

Overview

- Aperture photometry of Hartley 2 for ~2 months around the time of the EPOXI flyby
- Data in 5 filters, numerous aperture sizes, and two techniques, with error estimates
- Can be used to create lightcurves like published in A'Hearn et al. 2010 and other papers

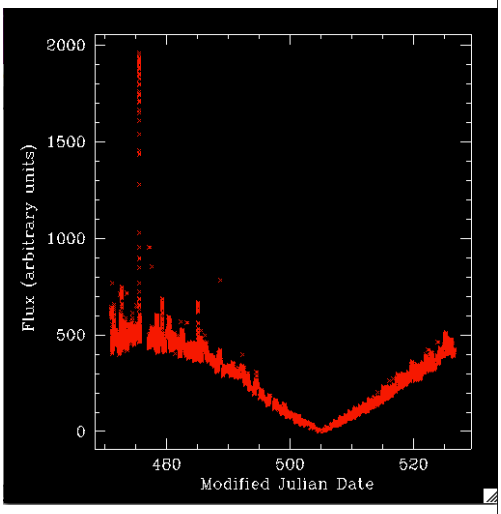
Can I create a lightcurve?

- Read the clear data and plot



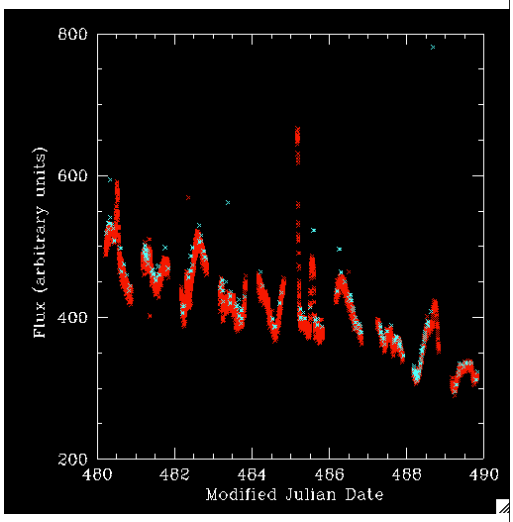
Can I create a lightcurve?

- Read the clear data and plot
- Normalize by comet-spacecraft distance
  - Note: I'm using a fixed aperture so as DIF got close to comet, signal decreased (more signal outside of aperture)



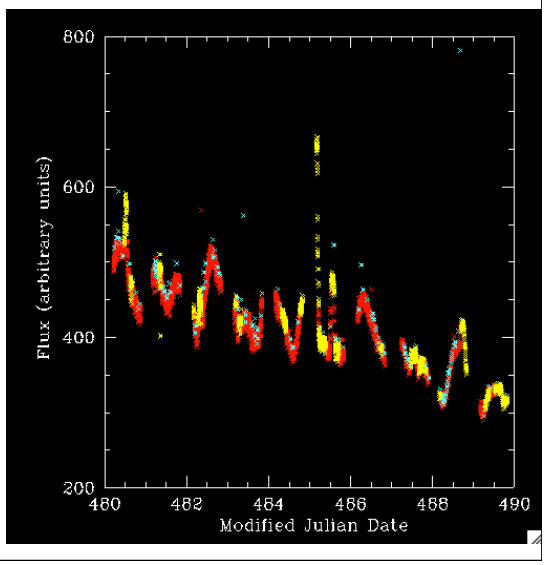
Can I create a lightcurve?

- Read the clear data and plot
- Normalize by comet-spacecraft distance
- Zoom in on region of interest, highlight images with cosmic rays (cyan)



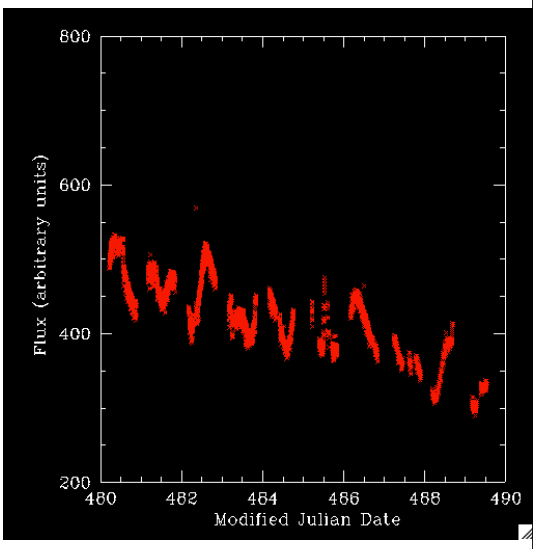
Can I create a lightcurve?

- Read the clear data and plot
- Normalize by comet-spacecraft distance
- Zoom in on region of interest, highlight images with cosmic rays (cyan)
- Highlight images with nearby star
  - Gets rid of most all high points



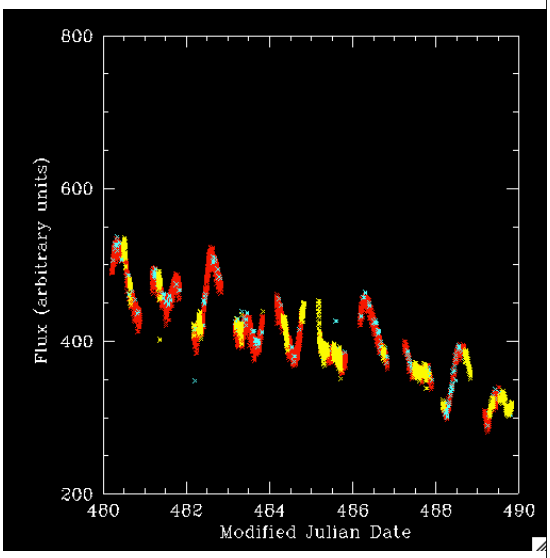
Can I create a lightcurve?

- Read the clear data and plot
- Normalize by comet-spacecraft distance
- Zoom in on region of interest, highlight images with cosmic rays (cyan)
- Highlight images with nearby star
- Removed images with cosmic rays and nearby stars and lightcurve looks about like I expected it



Repeat with AZAV (v1 was APER)

- Read the clear data and plot
- Normalize by comet-spacecraft distance
- Zoom in on region of interest, highlight images with cosmic rays or nearby stars



Review

- Everything is extremely well documented
  - CN anomaly explanation was particularly interesting
  - Source IDL code potentially useful and sufficiently annotated
  - Photometry files contained all the quantities I quickly thought of that I might need (r, delta, phase, star/CR flags)
- A few minor typos and suggestions have been passed on to Anne
  - No significant concerns to discuss
- Easy to figure out how to use the data and get useful results

dif-m-hriv-3_4-epoxi-mars-v2.0

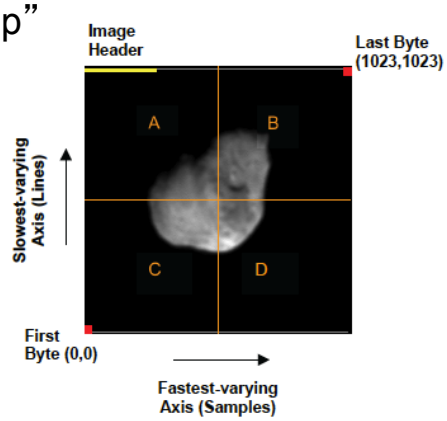
Matthew Knight (secondary reviewer)
3:00 pm

Overview

- Narrowband images of Mars from DIF's HRI instrument from 2009
- Observing sequence lasted ~24 hr
  - 3 filters taken hourly
  - 4 filters taken every 15 min
- Includes two sets of calibrated data (reversibly and irreversibly)

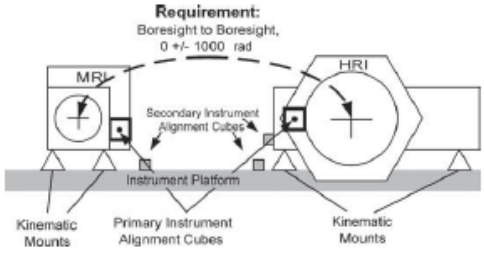
Good documentation

- Example: in dataset.cat, what does this mean? "the fastest-varying axis (samples) increasing to the right in the display window and the slowest varying axis (lines) increasing to the top"
- Answer found in document/epoxi_sis.pdf:



Good documentation

- Example #2: in dataset.cat it says “see the relative boresight alignments section of the Deep Impact instrument calibration document.” Can I find this?
- Found it quickly in document/ instruments_hampton.pdf:



Review

- Everything is extremely well documented
  - Extensive calibration material
  - Good collection of information in documents/
    - Would be useful to include viewing information here since it would be challenging to produce with Horizons (e.g., epoch_earth_geom_2008jun.asc in dif-e-hriv-3_4-epoxi-earth-v2.0/documents/)
    - Pipeline is well documented
- A few minor typos and suggestions have been passed on to Anne

dif-m-mri-3_4-epoxi-mars-v2.0

Matthew Knight (secondary reviewer)
3:30 pm

Overview

- Narrowband images of Mars from DIF's MRI instrument from 2009
- Observing sequences lasted ~24 hr
  - Images were taken less frequently than HRI
  - All images in the same filter
- Includes two sets of calibrated data (reversibly and irreversibly)

Using the data

- I ran out of ideas to look at. See reviews in other datasets :)

Review

- Everything is extremely well documented
  - Extensive calibration material
  - Good collection of information in documents/
    - Would be useful to include viewing information here since it would be challenging to produce with Horizons (e.g., epoch_earth_geom_2008jun.asc in dif-e-hriv-3_4-epoxi-earth-v2.0/documents/)
    - Pipeline is well documented
- A few minor typos and suggestions have been passed on to Anne

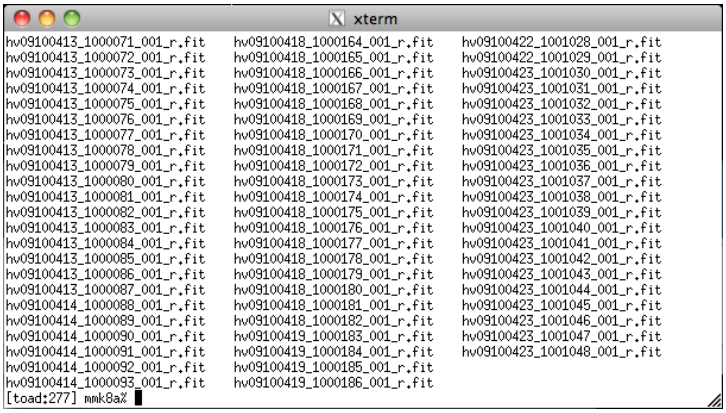
dif-e-hriv-3_4-epoxi-earth-v2.0

Matthew Knight (secondary reviewer)
4:15 pm

Overview

- Narrowband images of Earth from DIF's HRI instrument from 2008-2009
- Observing sequence lasted ~24 hr
  - 3 filters taken hourly
  - 4 filters taken every 15 min
- Includes two sets of calibrated data (reversibly and irreversibly)

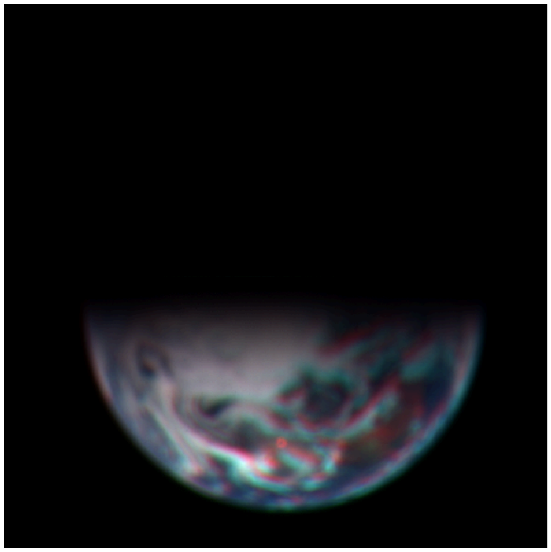
Can I make a color picture of Earth?



- File names are no help for getting filter info
- docment/epoch_earth_seq_2009.pdf looked promising, but no list of filters

Can I make a color picture of Earth?

- Wrote program to extract filter name from FIT headers
- Found red, blue, green images and combined
- Success…but harder than expected



Review

- Everything is extremely well documented
  - Extensive calibration material
  - Good collection of information in documents/
    - Viewing information handy to include here since it would be challenging to produce with Horizons (e.g., epoch_earth_geom_2008jun.asc)
    - Pipeline is well documented
- A few minor typos and suggestions have been passed on to Anne
- Data would be much easier to use if there was a master text file with vital information like filter, date/ time, etc.
  - Update: found it in document/hriv_3_4_epoxi_mars.tab

dif-e-mri-3_4-epoxi-earth-v2.0

Matthew Knight (secondary reviewer)

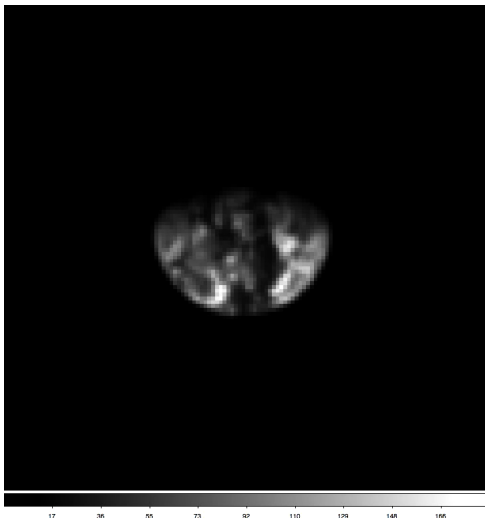
4:30 pm

Overview

- 750-nm filter images of Earth from DIF's MRI instrument from 2008-2009
- Observing sequences lasted ~24 hr
  - Images were taken less frequently than HRI
  - All images in the same filter
- Includes two sets of calibrated data (reversibly and irreversibly)

Can I see Earth rotating?

- Zoomed in on Earth
- Manually aligned by eye
- The movie plays too fast here, but yes, I can!



Review

- Everything is extremely well documented
  - Extensive calibration material
  - Good collection of information in documents/
    - Viewing information handy to include here since it would be challenging to produce with Horizons (e.g., epoch_earth_geom_2008mar.asc)
    - Pipeline is well documented
- A few minor typos and suggestions have been passed on to Anne