

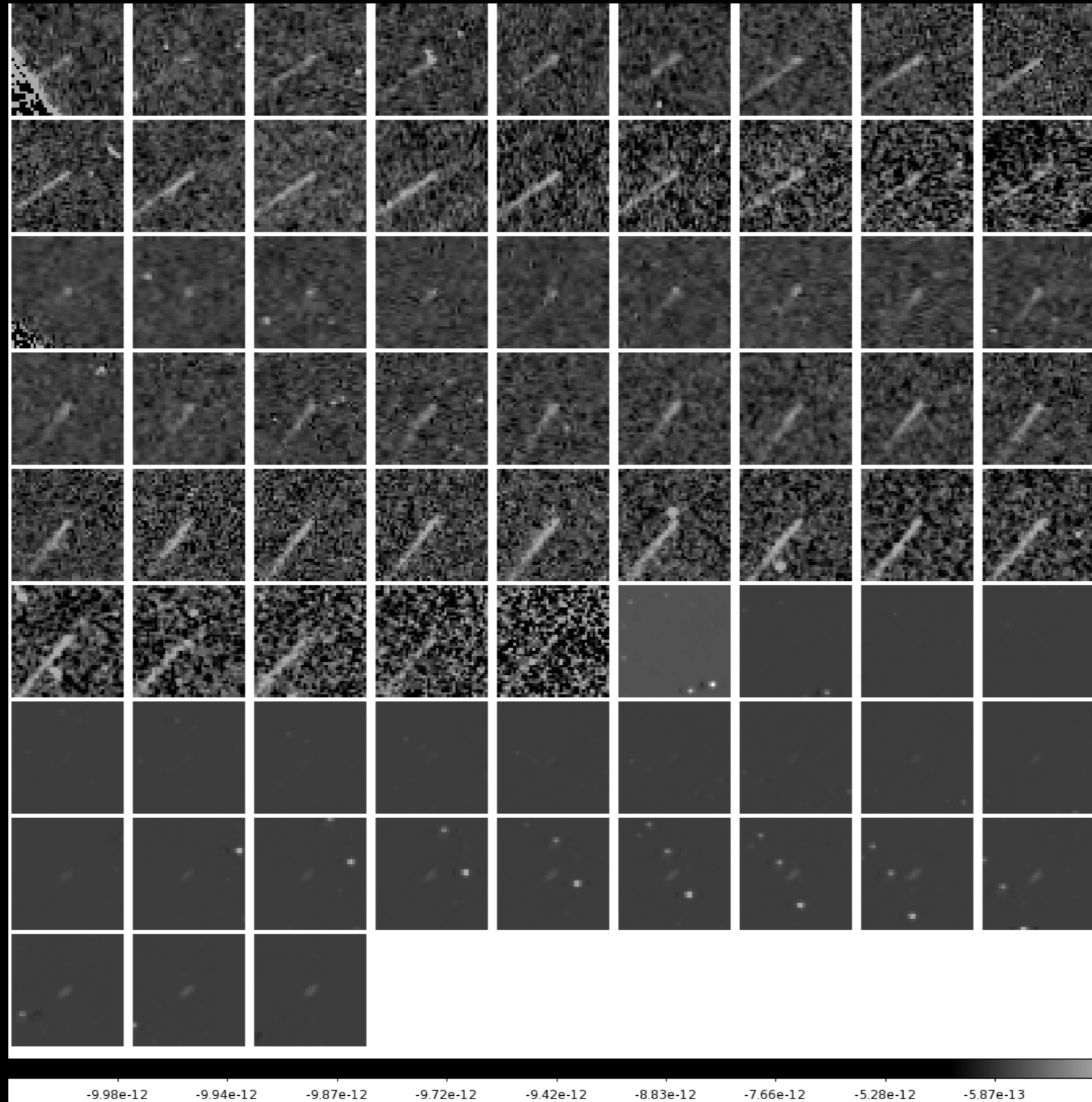
STEREO/SECCHI Datasets

stereo-c-secchi-3-cometimages-v1.0

stereo-c-secchi-5-photom-v1.0

- Dataset that contains the images and photometry of sungrazing comets imaged by SECCHI onboard STEREO A/B
- All data taken between 2007-01-30 and 2010-01-03
- 41x41 subarrays are extracted from original images and archived, all relevant information preserved in headers
- Corresponding photometry extracted and archived in a separate dataset
- Photometry done with 1-10 pixels apertures, conversion factors provided for flux calibration
- Useful for future studies of sungrazing comets, should be archived at PDS/SBN

C/2008 B2



dataset.cat (both datasets)

- Some inconsistencies:
 - START_TIME = 2007-01-30T08:08:12.467
 - STOP_TIME = 2010-01-03T10:54:16.009
 - But in abstract line 27: '... from 2006-2009.', also in line 215 it says 2007-2009, and line 252 says 2006-2009 again
- line 49: '...following families...', but then only one family is listed
- Line 136: typo somet
- Line 160: Possible to provide reference, SIS, etc about imaging mode? Or point out it is irrelevant to this dataset.

dataset.cat (both datasets)

- Line 177-178: “The aperture radius was 5 pixels (~350 arcsec) for HI1 and 7 pixels (~103 arcsec) for COR2.” Is photometric aperture size relevant here?
- Line 208: "in prep" is not good to reference
- Linen 263: Confidence level note is NONE?

FITS Header, 2008c6_h1a_20080207_084901.fits

```
NUMBER = 'S01437' / Internal number for comet in image
OBJECT = '2008C6' / Comet of interest in image
COMETX = 993.000 / Comet X in original image
COMETY = 366.000 / Comet Y in original image
XMIN = 987 / Minimum X in original image
XMAX = 998 / Maximum X in original image
YMIN = 360 / Minimum Y in original image
YMAX = 371 / Maximum Y in original image
NUM_IM = 4 / Number of images used to construct background
IMAGE1 = '20080207_072901_s4h1A.fits' / Image 1 in background
IMAGE2 = '20080207_060901_s4h1A.fits' / Image 2 in background
IMAGE3 = '20080207_100901_s4h1A.fits' / Image 3 in background
IMAGE4 = '20080207_112901_s4h1A.fits' / Image 4 in background
IMAGE5 = 'N/A' / Image 5 in background
IMAGE6 = 'N/A' / Image 6 in background
IMAGE7 = 'N/A' / Image 7 in background
IMAGE8 = 'N/A' / Image 8 in background
IMAGE9 = 'N/A' / Image 9 in background
```

Why $XMAX - XMIN = 11$ not 40? Also for $YMAX - YMIN$.

Photometric Uncertainties

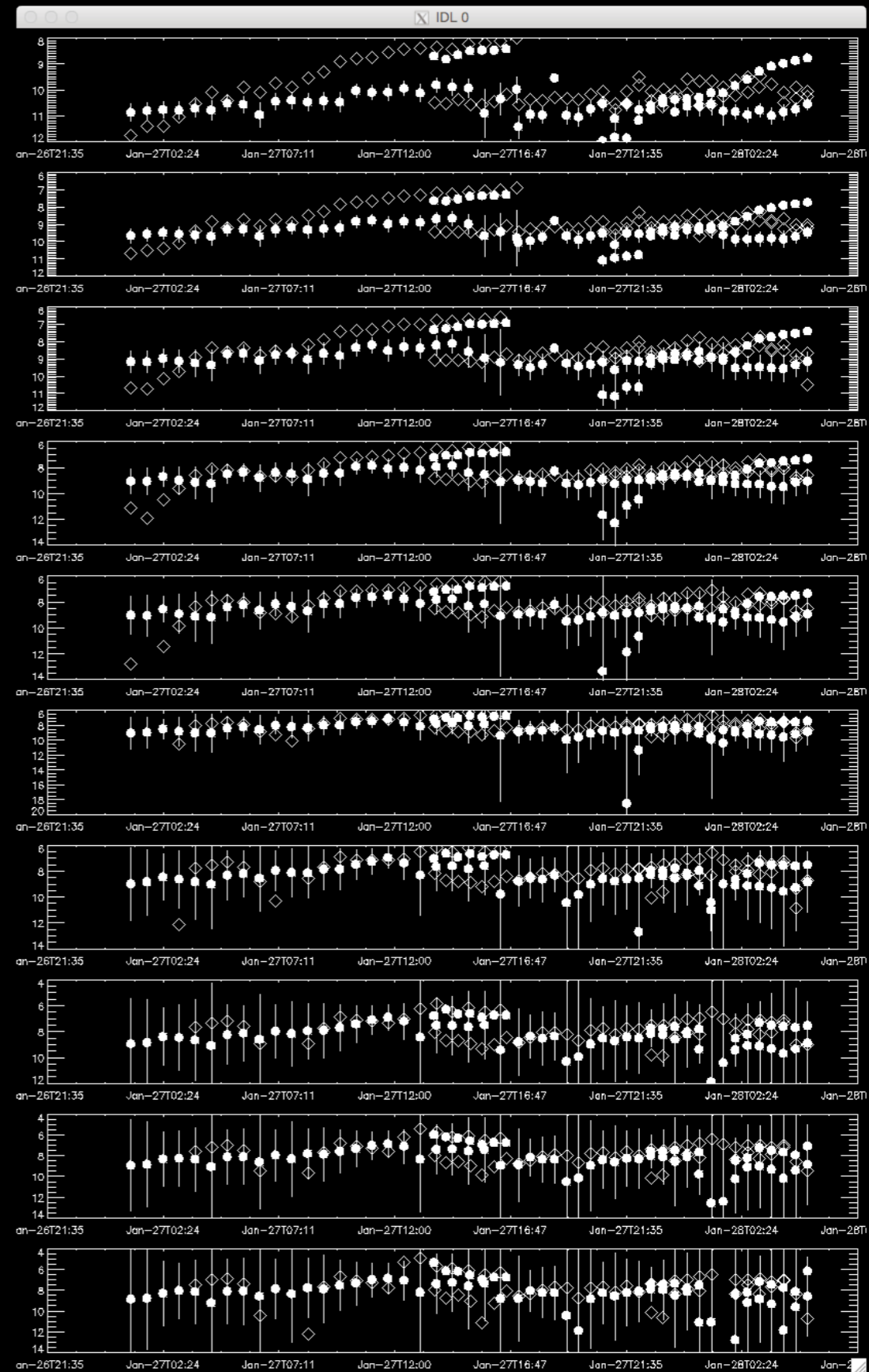
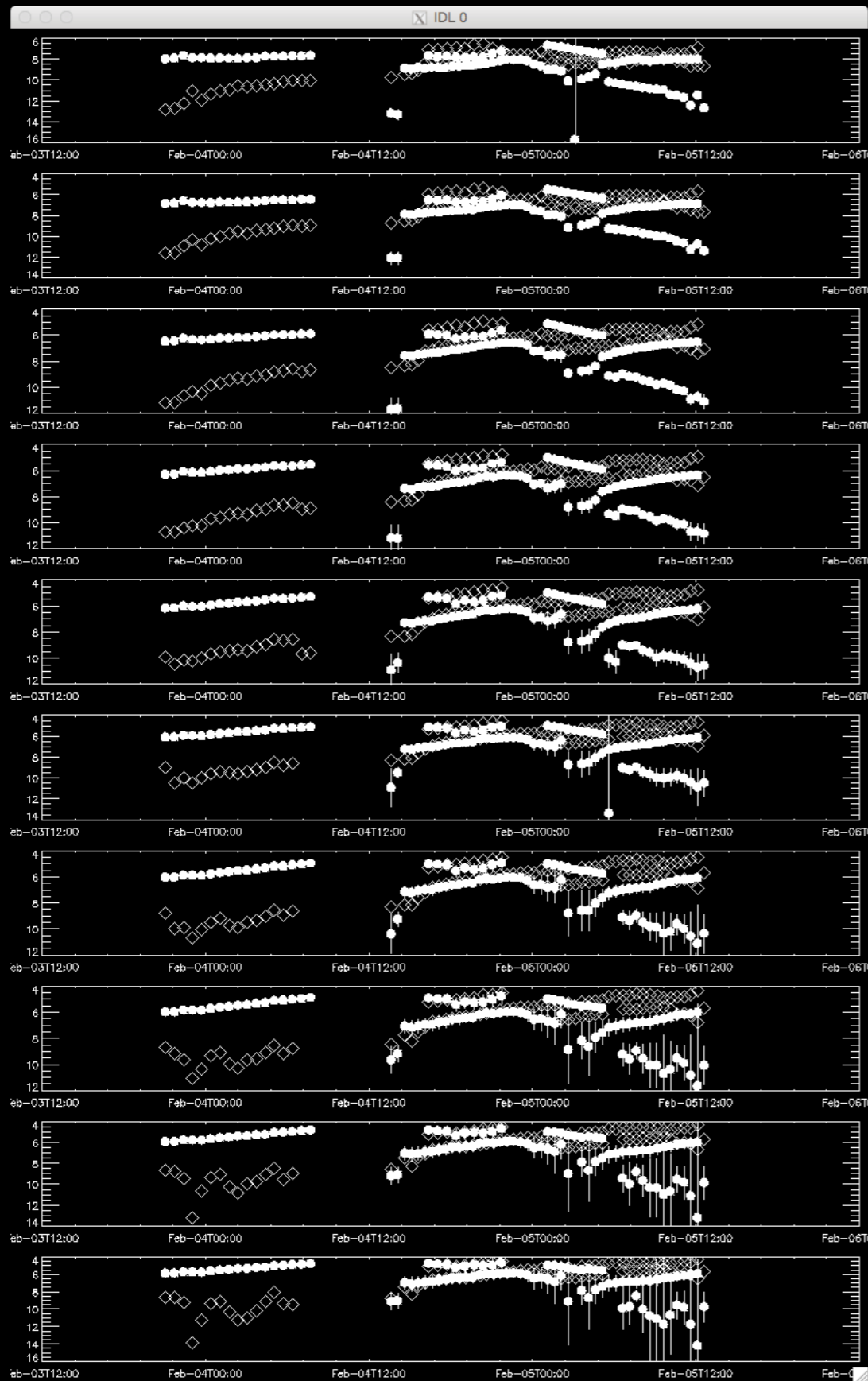
- What about systematic uncertainties such as those in sky background and bias?
- Is the photometric uncertainty background or photon limited?

Inconsistency Between Datasets

- Assumption: the imaging dataset and photometry dataset correspond to each other
 - Photometry is extracted from images in the image dataset
 - All images included in the image dataset have photometry in the photometry dataset, and vice versa
- However, the image names listed in the photometry dataset for four comets (c2007y5, c2008k4, c2008l14, c2009d4) don't match those in the image dataset

C/2009 C3

C/2008 B2



Other Thoughts

- Very useful to have the orbital elements of all comets listed, but should point out the source
- Helpful to have a table listing the number of available images for each comet
- Would any future studies need to use rasters larger than 41x41?