

# PDS Data Review

## MRO Data

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document\_mro

# MRO SIS

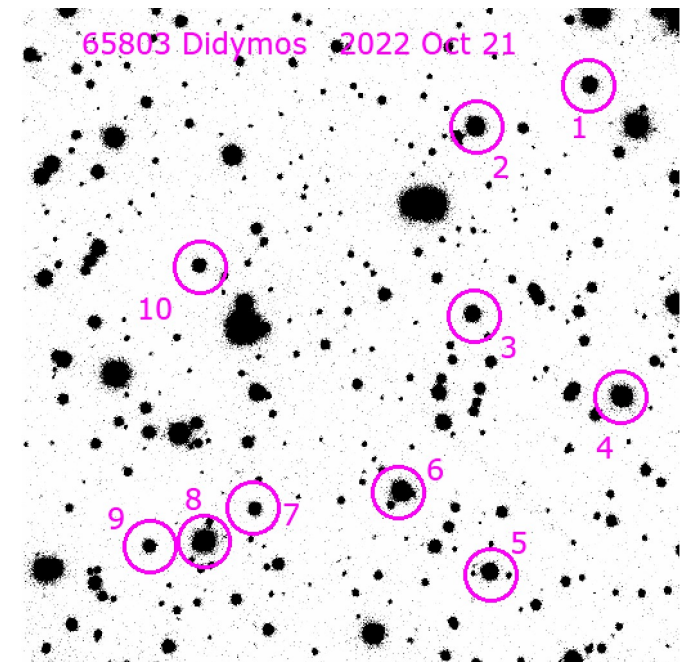
- Magdalena Ridge Observatory SIS support documents
  - MRO 2.4-meter Telescopic Imager
- SIS describes the data products and reduction procedures
  - Raw Image data (FITS files)
    - Only Didymos data
  - Reduced image data (FITS files)
    - Didymos data
    - Bias subtracted, dark subtracted, flat fielded
    - Remain in units of DN
  - Master calibration files
  - PNG images identifying photometric comparison stars
  - Photometry tables (ASCII Tables)
- SIS Generally looks good

data\_mrrow

data\_mrocal

# MRO Raw & Calibrated Images

- Overview files
  - Presents a short summary of the LDT data
- Raw data: FITS images with detached XML labels
  - 512 x 512 pixels
  - 3023 images in 12 directories (by date)
    - 2712 Didymos images (R, V, VR filters)
    - 311 Didymos comps[RV] images
- Raw data: PNG reference star images (included in FITS image XML labels for the comp star images)
  - 12 reference star images (one for each date)

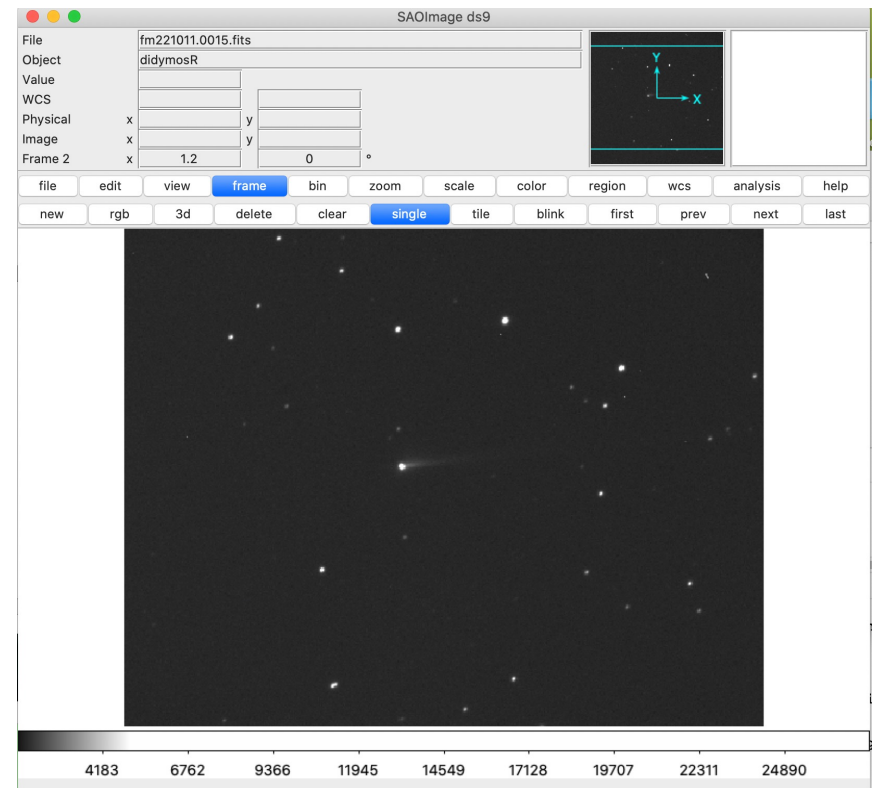


# LDT Raw & Calibrated Images

- Calibrated data: FITS images with detached XML labels
  - 512 x 512 pixels
  - 3037 images in 16 directories (by date)
    - 2711 Didymos images (one less than raw data)
    - 312 Didymos comp star images (one more than raw data)
    - 4 master bias images
    - 4 master dark images
    - 6 master flat field images
  - Bias, dark and flat images come from different nights
  - Master files used in the calibration process are listed in the header of each image

# MRO FITS Image Data

- Data are mostly in good shape
  - Read with IDL FITS readers and PDS\_READ
  - Read and displayed every image
- Tested to make sure data could be manipulated and measured
- **Minor inconsistency between the raw and calibrated datasets**
- Spot-checked XML Label information
  - Orientations are good
  - No problems
- Did not try to reproduce the photometric measurements



# DidymosR vs DidycompsR

- What is difference between DidymosR and DidycompsR in object keyword?
  - They look the same and have same header info
  - Comp star images are not included in the photometry table
- Discrepancy in number of each in raw vs calibrated
  - Image m230128.0179 is “didymosR” in raw data
  - Image fm230128.0179 is “didycompsR” in calibrated data
  - Image (via JD midtime) is not included in the photometry table
- Does this matter? Does one or the other need changed or documented?

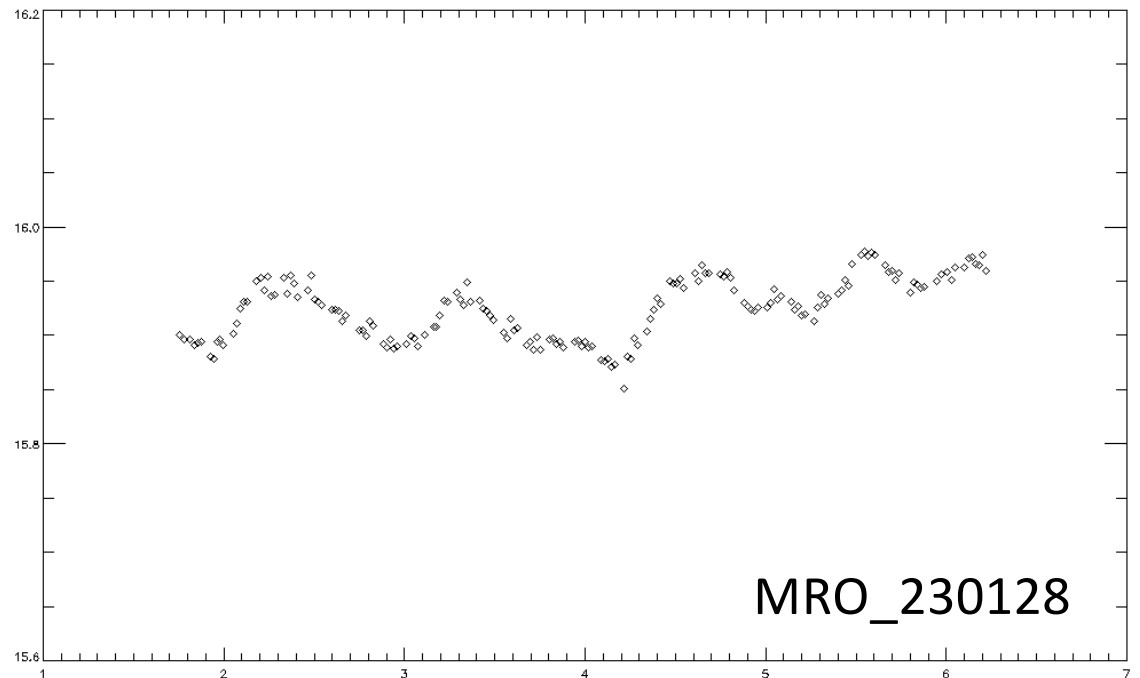


data\_mroddp

# MRO Photometry

- Overview file
  - Short summary of the data reduction and photometry measurements
  - Discusses absolute magnitude calibration, but this is never done in the data, so that discussion could be removed
    - Simply state that the measurements are given as relative instrumental magnitudes

- Data: 12 tables of relative photometry from 12 dates (ASCII)
- Data look like Didymos lightcurves



# MRO Photometry

- Is it possible to include a table(s) of the instrumental mags of comp stars as well?
  - If someone wanted to calibrate the lightcurves to absolute magnitudes, they would need these values

# MRO Status

- Problem with the one image that is didymos frame in raw but comp star frame in calibrated?
- Photometry overview file edits?
- Include a table of comparison star instrumental magnitudes?
- Data are certifiable