

PDS Review LORRI

🕒 Last edited

January 22, 2024 3:12 PM

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PDS review NH LORRI

KEM2 Cruise

Short phase name (in DSID): KEM2

Formal mission phase name: KUIPER BELT EXTENDED MISSION 2

Mission Phase Start Time - 2022-10-01

Mission Phase Stop Time - 2024-09-30

Activities during the KEM2 mission phase include continuing observations of distant KBOs, and dust and plasma measurements along the New Horizons flight path through the Kuiper belt and beyond. KEM2 also includes new studies in Planetary Science (large-phase angle observations of gas giants), Heliophysics (Lyman-alpha all sky map), and Astrophysics (cosmic optical and ultraviolet background, and distant shock regions).

/document/docinfo.txt

Generic comments: .. is an important document for interpreting the data (x3)

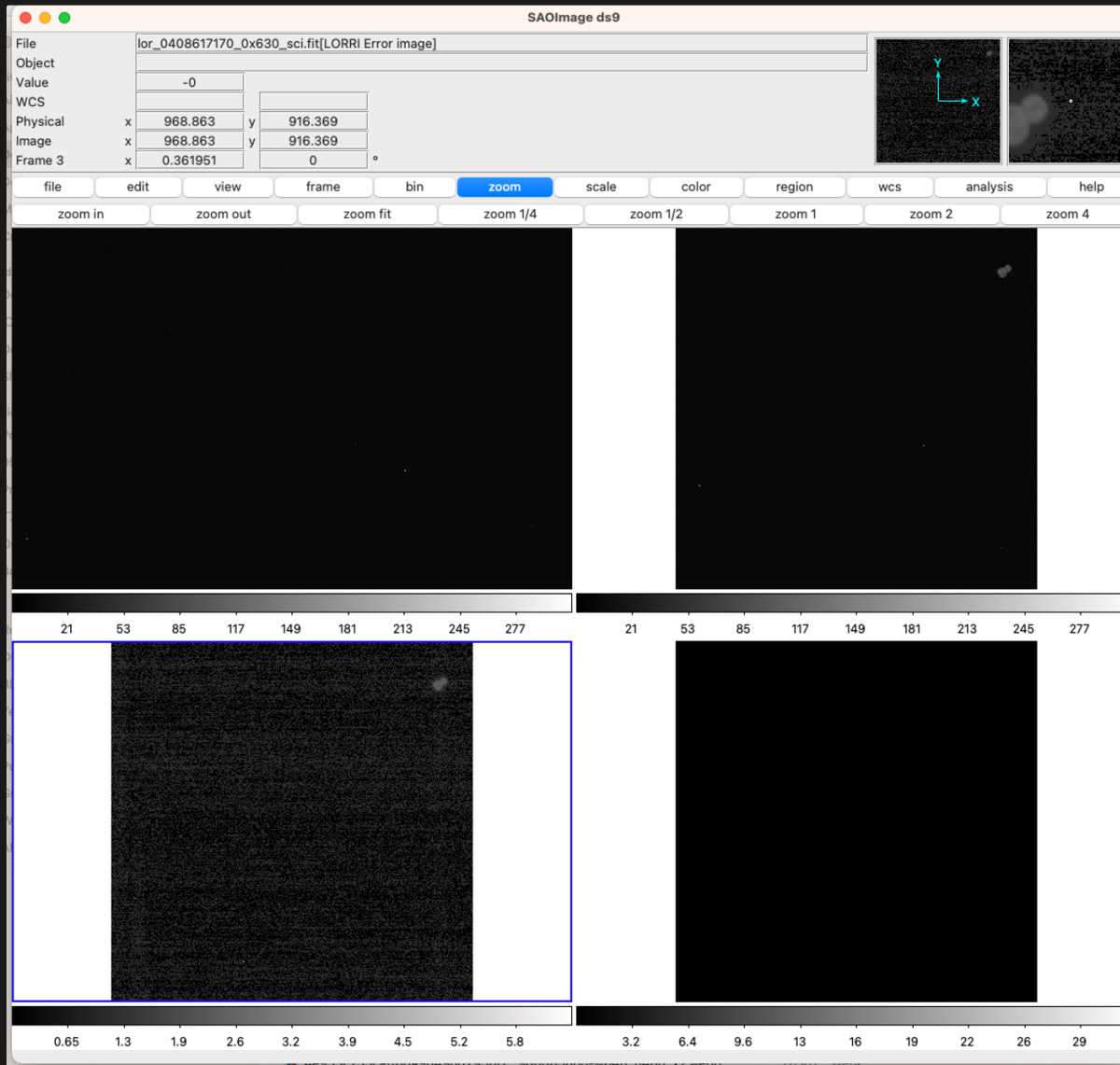
The folder contains several PNG files, should those be converted into PDFs?

Calibrated Data

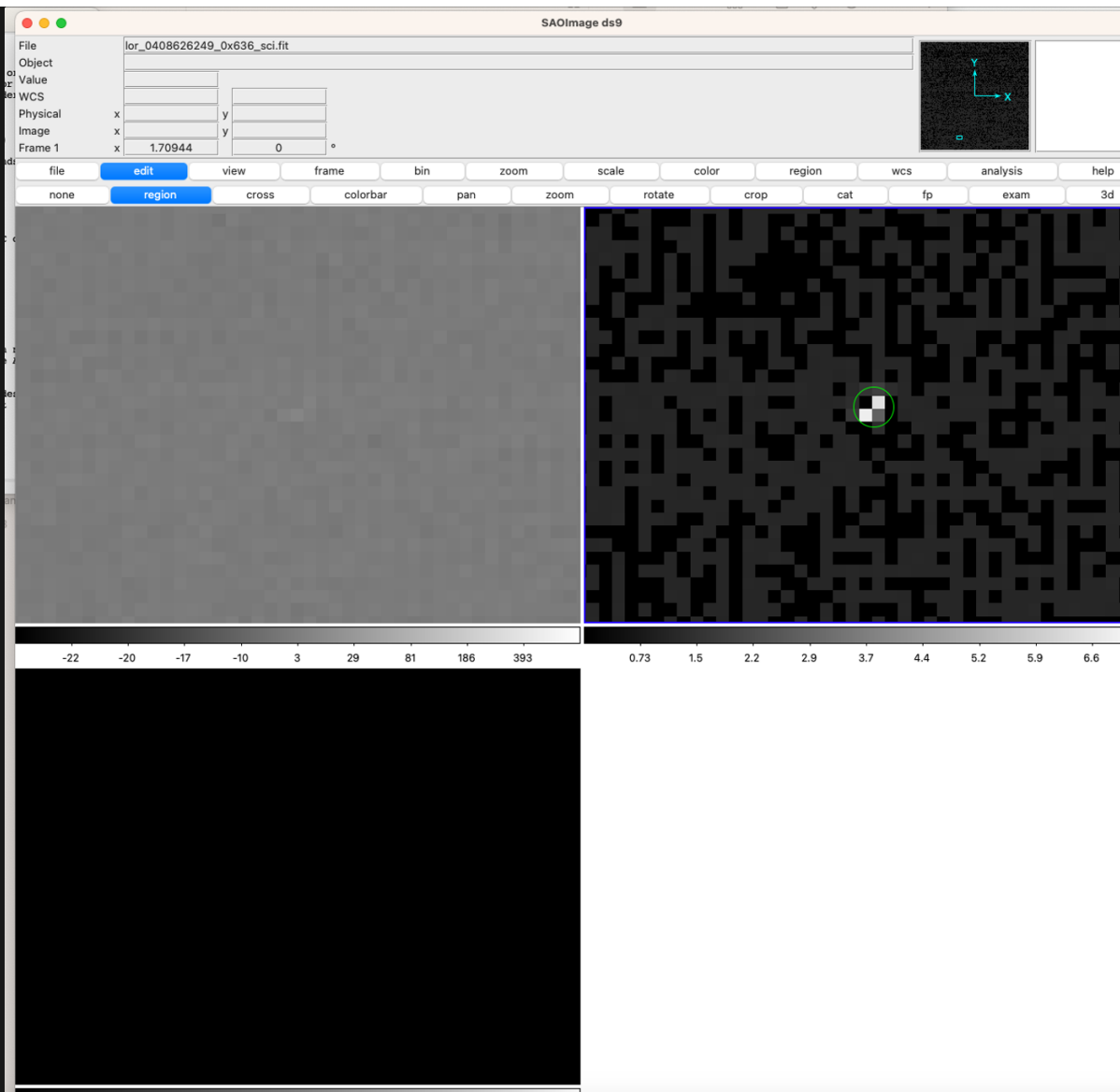
I am not a fan of multi-extension FITS files

What does '-0' in the error image mean? There are a lot of these.

Are the brighter dots stars or cosmic rays? I assume stars since there is not a single error flag in the Quality Flag image?



There are features present in the error image that seem to have no counterpart in the other extensions - are those artifacts?



The header for this file says "KEM1", whereas this should be KEM2?

From Dataset.cat:

This data set contains Calibrated data taken by the New Horizons Long Range Reconnaissance Imager instrument during the KEM1 ENCOUNTER and KEM2 CRUISE mission phases.

```

lor_0408626249_0x636_sci.fit
SIMPLE = T / Written by IDL: Thu May 4 20:34:22 2023
BITPIX = -32 / IEEE single precision floating point
NAXIS = 2 / number of array dimensions
NAXIS1 = 1024 / Number of positions along axis 1
NAXIS2 = 1024 / Number of positions along axis 2
EXTEND = T
MISSION = 'New Horizons' / Mission name
HOSTNAME = 'NEW HORIZONS' / Host name (PDS terminology)
HOSTID = 'NH' / Host ID (PDS terminology)
INSTRU = 'lor' / Instrument
APID = '0x636' / Application ID of science data
MET = 408626249 / First packet MET (from instrument or HS bus)
METEND = 408626249 / Last packet MET (from instrument or HS bus)
MET_HK = 408626248 / MET from housekeeping used in header
HSCOMPR = 'LOSSLESS' / High-speed compression mode
OBSCOMPL = 'COMPLETE' / Observation completion status
MISSPACK = 0 / Missing CCSDS packets (-1 = N/A)
STARTMET = 408626248.9544 / Actual start time (in MET seconds)
STOPMET = 408626248.98 / Actual stop time (in MET seconds)
DURMET = 0.02560001611709595 / Observation duration (in MET seconds)
METSRC = 'HK_Info' / Source of above three times
EXPTIME = 0.0256 / Exposure time
ARCHDATE = '2022/127' / Date of MOC archive file
GRT = 23502.0694864559 / Ground receipt time from STP
DATE = '2023-05-04T20:30:47' / Time file was created by SOC
SOCVER = 6.4 / SOC pipeline software version
SOCLOC = 'TSOC' / SOC location where processed (TSOC or CSOC)
LOADID = '18359' / Sequence load ID
REQID = 'KELR_MU69_CA06-PREALLOC_L1_2019001' / Request ID
REQREC = 'SSR2' / Recorder used
REQCOMM = '----' / Request comment
OPNAV = 'SCIENCE' / Optical navigation type
MSNPBASE = 'KEM1' / Mission phase
MSNSUBPH = 'KEM1' / Mission subphase
SCIGRP = 'Group None' / Science group
SAPID = 3801 / Science Activity Plan ID
SAPNAME = 'KELR_MU69_CA06-HIRES_L1_2019001' / Science Activity Plan name
SAPDESC = 'Close approach scan. Highest Resolution LORRI' / Science Activity Pla
VISITID = 48583 / Visit ID
VISITNAM = 'KELR_MU69_CA06-HIRES_L1_2019001' / Visit name

```

I am confused:

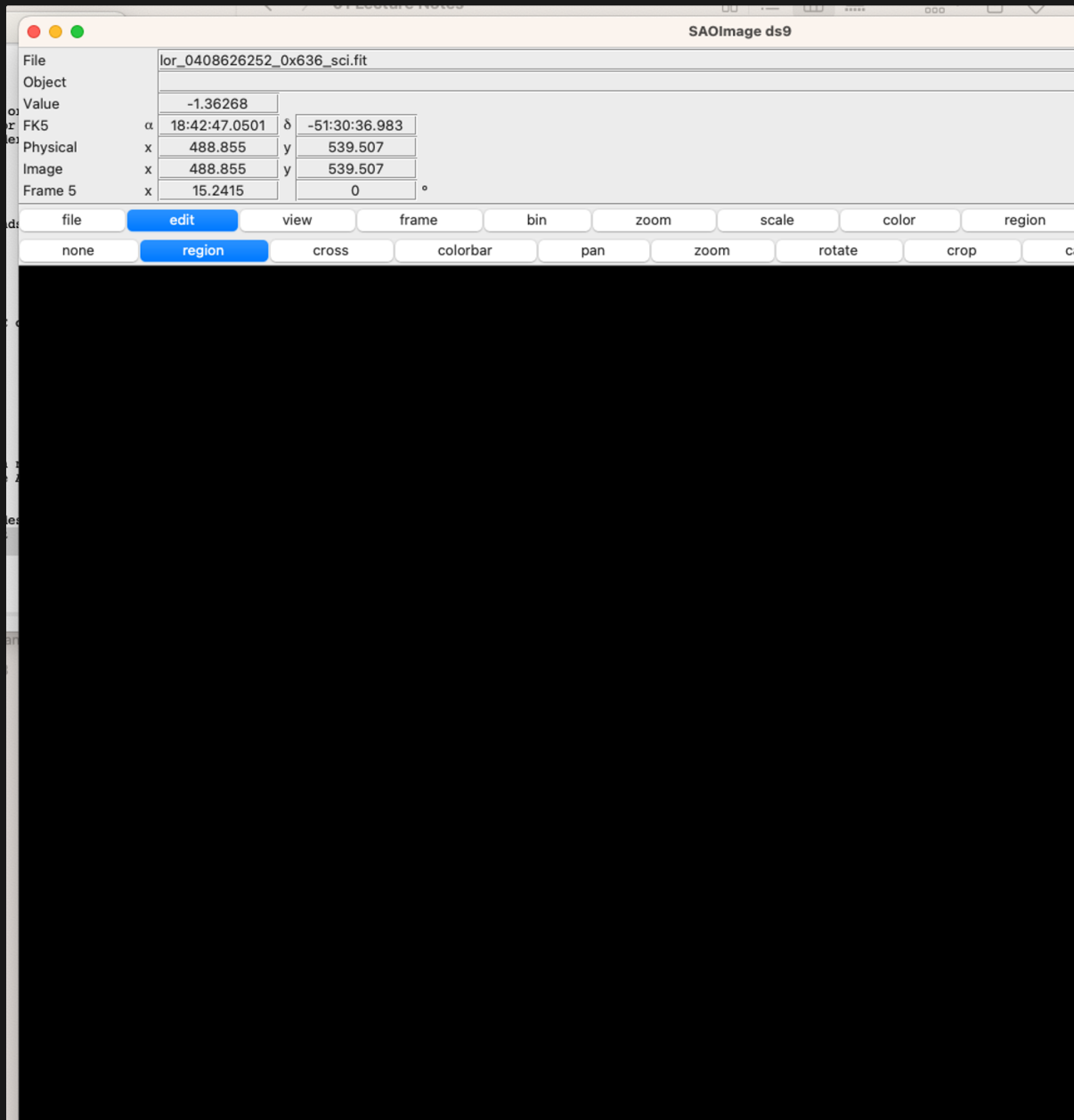
RIDEALNG= 'NO' / Riding along with other instrument

TARGET = 'ASTEROID 486958 (2014 MU69)' / Intended target

TRGFOVN = 0 / Num targets in view

So was it or was it not pointed at MU69?

Calibrated images have negative values?



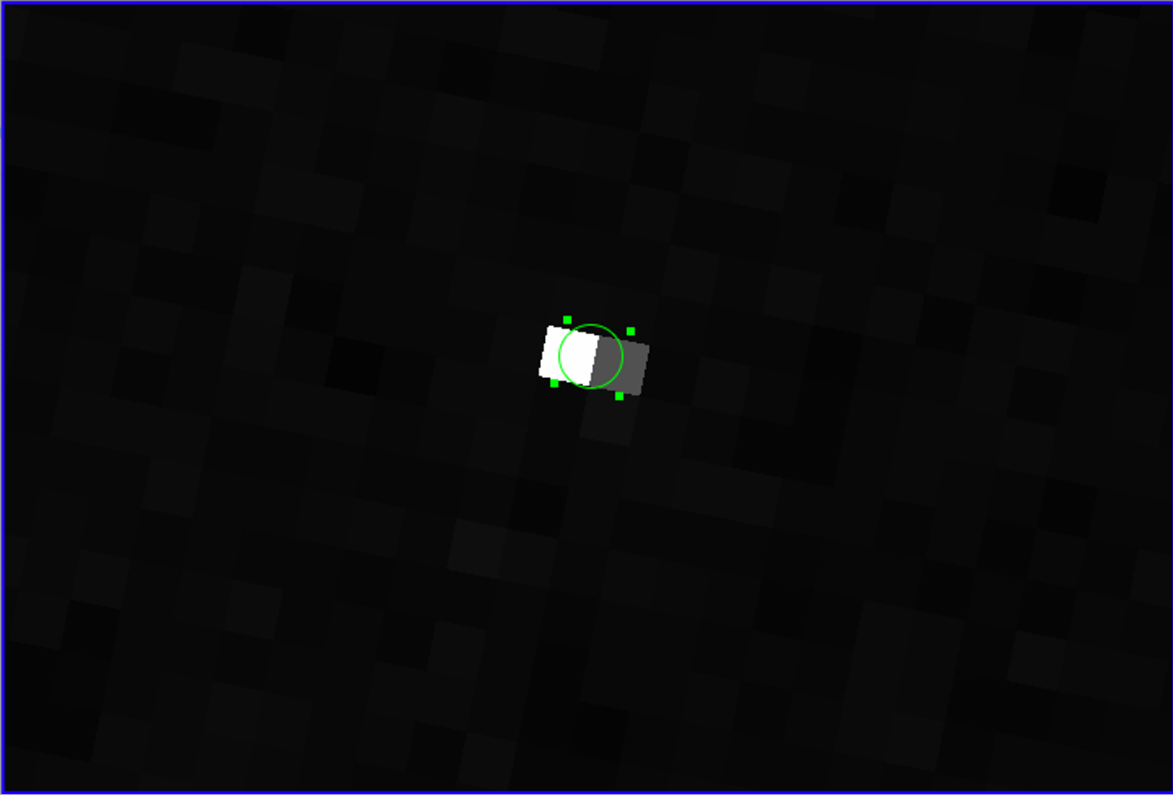
Higher count rate in one image but not in the next image that was acquired just a few minutes later - this is a CR instead of a star? (region indicates same RA & DEC)

none

region

cross

colorbar



11

29

47

64

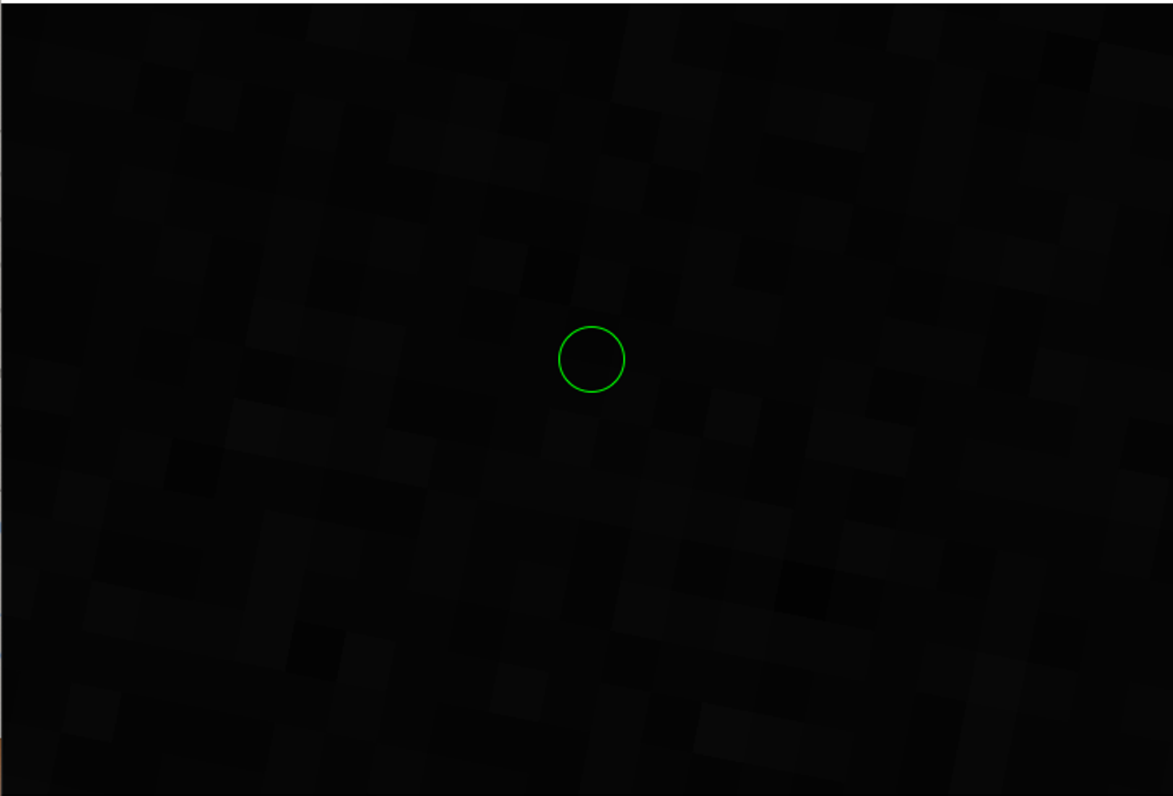
82

100

117

135

153



25

58

90

122

156

189

221

254

287