

Rosetta PDS review – OSIRIS – A. Gicquel

Documentation

The dataset does not contain all documentation needed to use and understand its data without prior knowledge. For example, the values from the flux of the Sun at the central wavelength of the filters are not provided

The filter's center wavelength and bandpass are not provided in the dataset. It is provided in external documentation (Keller et al. 2017) but the information in said external references should be incorporated into the dataset

The provided documentation is well organized, clear and self-consistent

The documentation explains the calibration process and contains necessary parameters needed to repeat it

PDS Labels and Meta Data

The descriptions and scientific content contained inside the PDS labels are not sufficient to understand their corresponding data products.

The labels didn't provide all essential description of data values.

The UT Time is missing in the label.

The pointing information is not included in the label.

The “OPERATIONAL_ACTIVITY” is not written in the label: NUCLEUS_COLOR, DUST_LIMB_SCAN, DUST_PARTICLE_TRACK, DUST_JET, CALIB_STAR, DUST ,...

The Filters numbers are given in the labels, but the filter's center wavelength and bandpass are not provided in the label and not provided in the header of the .FITS

The data can be read programmatically using only the information contained in the PDS labels.

The meta data are included directly in the PDS labels

Data

Level 2 and Level 3 dataset: The .FITS and .IMG images are matching

The data look physically reasonable when examining it by eye or via a display tool.
There are not unexpected deviations when displaying the data as plots or images.

It is unclear which calibration parameters are applied to what data.

The observed object could not be found in the images NAC in Level 2, Level 3 and Level 4 with a science activity “nucleus_color”.

n20150115t173736533id
n20150115t173747875id
n20150115t173759654id

There are unexplained gaps in the data (missing files for the WAC and the NAC data).

The comparison between RO-C-OSINAC-2-ESC1-67PCHURYUMOV-M12-V2.1, RO-C-OSINAC-3-ESC1-67PCHURYUMOV-M12-V2.1, and RO-C-OSINAC-4-ESC1-67PCHURYUMOV-M12-V1.0 revealed that some data are missing in level 3 (id 30) and level 4 (id 40)

Level 2: id20

n20150120t152742568id20f54.img
n20150120t152753479id20f54.img
n20150120t152802435id20f54.img
n20150120t153318456id20f54.img
n20150120t155429477id20f54.img
n20150120t161538445id20f54.img

n20150127t143312568id20f54.img
n20150127t143322476id20f54.img
n20150127t143332535id20f54.img

n20150130t021821486id20f54.img
n20150130t021832448id20f54.img
n20150130t021841485id20f54.img

n20150209t101952434id20f54.img
n20150209t102001444id20f54.img
n20150209t102012455id20f54.img

The comparison between RO-C-OSIWAC-2-ESC1-67PCHURYUMOV-M12-V2.1, RO-C-OSIWAC-3-ESC1-67PCHURYUMOV-M12-V2.1, and RO-C-OSIWAC-4-ESC1-67PCHURYUMOV-M12-V1.0 revealed that some data are missing in level 3 (id 30) and level 4 (id 40)

Level 2: id20

w20150120t152833481id20f87.img
w20150120t152844431id20f87.img
w20150120t152853469id20f87.img
w20150120t153329443id20f87.img
w20150120t155438498id20f87.img
w20150120t161549447id20f87.img

w20150127t143404473id20f87.img
w20150127t143413450id20f87.img
w20150127t143424455id20f87.img

w20150130t021913482id20f87.img
w20150130t021922584id20f87.img
w20150130t021933473id20f87.img

w20150209t102042455id20f87.img
w20150209t102053446id20f87.img
w20150209t102102446id20f87.img

The OSIRIS cameras, composed of the WAC and NAC, were dedicated to mapping the nucleus of comet 67P and characterizing the evolution of the comet's gas and dust. The WAC (230–750 nm) was mainly used to study the coma of dust and gas, while the NAC (250–1000 nm) was used to investigate the structure of the nucleus.