Date: July 16th 2019

List of open actions on VIRTIS from former review

In September 2019 it will be held a new scientific review on Rosetta data including VIRTIS.

This document list the actions that are open on VIRTIS from the previous review. The open actions come from the Enhancement review held in October 2018. VIRTIS was not review in the Final review held in May 2019. Actions from the End of Mission review held in 2017 are already closed.

During the Enhancement review held in October 2018 the following Level 3 datasets were reviewed:

RO-C-VIRTIS-3-ESC4-MTP013-V3.0

RO-C-VIRTIS-3-ESC4-MTP024-V3.0

All actions listed in this document are also accessible from Eclipse system by selecting project "Rosetta ENH Archive".

ID	Title	Reference	Description	Owner
37474	DATA_SET_ID in VIR-IAS-TR-010_ISSUE2.LBL	VIRTIS-EU-DF-001	1) In DOCUMENT/VIR-IAS-TR-010_ISSUE2.LBL correct the DATA_SET_ID from RO-C-VIRTIS-3-ESC1-MTP013-V3.0 to RO-C-VIRTIS-3-ESC4-MTP024-V3.0□ 2) Run Dval before delivering this or any datasets to ensure that it is free of dval detectable errors. For this particular dataset you might need to increase Java memory by typing export JAVA_OPTS="-Xmx=8G" in the Linux shell.	Diego Fraga
37265	Non physical data in VIRTIS_M_VIS	VIRTIS-EU-FS-001-DAT	□ * Description of Discrepancy:□ The dataset RO-C-VIRTIS-3-ESC4-MTP024-V3.0 of VIRTIS_M_VIS contains corrupted calibrated data. I found form the mosaic containing the full dataset 788 pixel with values > 10 or < 10. Mainly they are aberrant values up to plus or minus 10^35.□ * Initiator Recommended Solution:□ Flag and remove the bad pixel. In the header of the CAL files, it is indicated CORE_VALID_MINIMUM = -999.□ □ Disposition:□ Mask will be applied to all data to flag bad pixels□ □	Frederic Schmidt
37266	Degradation of the detector in the thermal region	VIRTIS-EU-FS-002-DOC	□ Document Page/Section/Para:□ VIRTIS_M_IR□ Discrepancy Document:□ * Description of Discrepancy:□ The calibrated data are very low around 4.5 microns for some cubes of VIRTIS_M_IR most probably due to degradation of the detector.□ * Initiator Recommended Solution:□ add a comment in the AAREADME.TXT□ □	David Heather
37267	Solar calibration bad sampling	VIRTIS-EU-FS-003-DAT	□ * Description of Discrepancy:□ CALIB/VIRTIS_RES_IR_HIGH_V10.TAB and VIRTIS_RESAMPLED_VIS_HIGH.TAB files contains 423 bands but the dataset contains 428 bands.□ * Initiator Recommended Solution:□ provide solar spectra sampled for the 428 bands, in agreement with the dataset.□ □	David Heather
37268	Problem with wavelength list	VIRTIS-EU-FS-004-DAT	□ * Description of Discrepancy:□ 9 incoherent wavelength between solar spectra and the VIRTIS_H data at position: 3347-3354, 3433□ * Initiator Recommended Solution:□ rewrite the wavelength column according to the VIRTIS_H	David Heather
37269	Inconsistent DATA_SET_ID	VIRTIS-US-EL-003-DOC	□ * Description of Discrepancy:□ ro-c-virtis-3-esc4-mtp024-v3.0/document/*lbl□ - These files have□ DATA_SET_ID = "RO-C-VIRTIS-3-ESC1-MTP013-V3.0"□ while the rest of the volume, including dataset.cat, has:□ DATA_SET_ID = "RO-C-VIRTIS-3-ESC4-MTP024-V3.0"□ * Initiator Recommended Solution:□ Replace by: DATA_SET_ID = "RO-C-VIRTIS-3-ESC4-MTP024-V3.0"□ □ □	Emily Law
37378	Capitalize values	VIRTIS-US-EL-007-DAT	In ro-c-virtis-3-esc4-mtp024-v3.0/data/.../*lbl□ capitalize this values:□ □ CORE_UNIT = "W/m**2/sr/micron"□ SOFTWARE_VERSION_ID = {"VirtisRos SW v.4.10", ... □	Emily Law
37377	older version mission.cat	VIRTIS-US-EL-010 -DOC	Description: According to reviewer File ro-c-virtis-3-esc4-mtp024-v3.0/catalog/mission.cat is older than the same file in other datasets. Action: Check this perhaps using diff and update if needed. Archive Scientist will check if is aligned with the same file of other datasets to close the action.	Emily Law

37375	virtis-m/bad pixels	VIRTIS-US-SP-001-DAT	Flag virtis-m-vis data contain bad pixels. See reviwer presentation for examples of afected data.□	Silvia Protopapa
37374	virtis-m/data cubes with no comet target	VIRTIS-US-SP-002-DOC	□ Consider documenting that some data products where targeting the coma and not the nucleus and therefore the nucleus is not in the FOV of some products. Consider documenting this in the label of the affected products. □	Silvia Protopapa
37373	virtis-h/radiance uncertainty estimate (1-sigma)	VIRTIS-US-SP-003-DAT	□ * Description of Discrepancy:□ I am reading the data using virtispds□ result = virtispds('~/ro-c-virtis-3-esc4-mtp024-v3.0/data/stp087/cal/virtis_h/t1_00409432776.cal')□ The radiance uncertainty estimate (1-sigma) is given by□ result.table[2,*]□ However all elements of this array are equal to -999, but the last element which is 0.□ □ * Initiator Recommended Solution:□ This is a major issue since the user needs to know the uncertainty on the calibrated data to estimate which features are real and which ones are within the noise.□ □ Virtis answer:□ "The -999.99 value stands for N/A, as above. This is work in progress, to be refined in the near future.□ Our current estimate is that systematic errors are larger than random errors, therefore it would be misleading to provide a std-dev estimate" □ □	Silvia Protopapa
37372	virtis-h/inconsistency between overlapping orders	VIRTIS-US-SP-004-DOC	□ * Description of Discrepancy:□ A H_Spectrum can be defined as a composition of the 8 orders imaged on the H-IR detector; the H_Spectrum is extracted from the two-dimensional detector by using a map of the lighted pixels based on 8 spectral orders of 432 elements and a width of 5 pixel for each order. The 5 pixels are reduced to 1 pixel by averaging. The H_Spectrum is composed of 3456 pixels.□ □ I have extract two virtis-h spectra (3456pixels) in correspondence of rows 831 and 625 of file stp087/cal/virtis_h/t1_00409432776. I have shown with	Silvia Protopapa
37369	reading virtis-h data using readpds/warnings	VIRTIS-US-SP-005-DOC	Mention this in the SW documentation but there is no need to change the data or label.□	Silvia Protopapa
37585	Bad pixels should be flagged	VIRTIS-US-SP-006-DAT	In STP046/cal/virtis_M_IR/I1_00384361376.CAL: Bad pixels of channel 76 of the spectral cube contain bad pixels that must be flagged.□ Additionally review if there are more cases of unfledged bad pixels like this in other channels or cubes and if so, flag the bad pixels.□ □	Diego Fraga
37430	Documentation/calinfo.txt - Solar spectrum	VIRTIS-US-SP-006-DOC	In /calib/calinfo.txt mention that the solar spectrum used is the Kurucz spectrum.□ □	Silvia Protopapa
37586	Spectral behavior behavior beyond 4.3 micron	VIRTIS-US-SP-007-DAT	-Investigate the spectral behavior beyond 4.3 micron for the bright region in spectral cube in RO-C-VIRTIS-3-ESC1-MTP013-V3.0/DATA/STP046/CAL/VIRTIS_M_IR/I1_00384361376.CAL. If it is not physical (for example coming from saturation), flag or mask the data. Apply the same if this is happening in other cubes.□ -Document this cases if needed. □	Diego Fraga
37431	Documentation/aareadme.txt - SW location	VIRTIS-US-SP-007-DOC	In section 3 of the aareadme.txt document corect the actual location of the IDL software which should be extras/code/virtispds.zip□	Silvia Protopapa
37432	Documentation - SW location in doc virtis_pds_idl_sw_manual.pdf	VIRTIS-US-SP-008-DOC	In document/virtis_pds_idl_sw_manual.pdf page 5, 1st paragraph correct the actual location of the software which should be EXTRAS/CODE and not DOCUMENT□	Silvia Protopapa

37475	DS.CAT corrections	VIRTIS-US-TB-001-DOC	□ Do the necesary updates in RO-C-VIRTIS-3-ESC4-MTP024-V3.0/CATALOG/DATASET.CAT:□ □ file: 'CATALOG/DATASET.CAT'□ --> typo: 'ESCORT<>4' to 'ESCORT 4' throughout□ --> ABSTRACT_DESC: Since there are multiple ESC4 data sets, please specify MTP as well.□ --> ABSTRACT_DESC: Add a brief statement related to difference between V2.0 and V3.0. Recalibration?□ --> CITATION_DESC: change year from '2017' to '2018' or when expected to be released to the public.□ --> DATA_SET_DESC: In the 'Data Set Overview' it talks about PRL MTP004, but this is ESC4 MTP024□ --> DATA_SET_DESC: Please add a 'Data Set history' section as was added for the V2.0 data sets:□ ==========□ Data Set history□ ==========□ □ This data set is version V2.0. The changes from the V1.0 enclose the□ closure of the liens from the 2017 review:□ - updates of documents such as EAICD, M and H calibration.□ - updates of AAREADME, ERRATA and DATASET.CAT□ - Updates of the data as the team found a bug in the calibration□ pipeline.□ ==========□ --> CONFIDENCE_LEVEL_NOTE: Please update the 'Review' section to reflect this data set. It currently talks about a review in 2015.□ □	Tilden Barnes
37473	VOLUME_VERSION_ID	VIRTIS-US-TB-002-DOC	Change VOLUME_VERSION_ID from "VERSION 1" to "VERSION 3" in RO-C-VIRTIS-3-ESC4-MTP024-V3.0/VOLDESC.CAT □ □	Tilden Barnes