

Oberon & Ariel

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Overview.txt/Documentation

Abstract Description

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The dataset contains reduced near-infrared spectra of the uranian satellites Oberon and Ariel. Spectra were acquired in October 2013 using Triplespec, a cross-dispersed near infrared spectrometer on the Astrophysical Research Consortium's 3.5-m telescope located at the Apache Point Observatory in Sunspot, New Mexico.

Abstract Description

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The dataset contains **raw and** reduced near-infrared spectra of the uranian satellites Oberon and Ariel. Spectra were acquired in October 2013 using Triplespec, a cross-dispersed near infrared spectrometer on the Astrophysical Research Consortium's 3.5-m telescope located at the Apache Point Observatory in Sunspot, New Mexico.

Overview.txt/Documentation/Data Processing

Data Set Overview

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This dataset presents spectra of Oberon and Ariel taken in 2013. The spectra were obtained at the Astrophysical Research Consortium's 3.5-m telescope at Apache Point Observatory in Sunspot, New Mexico using Triplespec, cross-dispersed spectrograph.

Confidence Level Overview

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Spectra were reduced using the standard techniques documented by Cushing et al. (2004). To correct for telluric absorption and the solar spectrum we use the G2V stars HD217877 on 31 October 2009 and BD004557 on 19 September 2010.

In order to remove at once the telluric and solar features from the target spectra, observations of nearby solar analogue stars, recorded approximately once per 1.5 hour, are performed. In this way every target observation has an associated “before” and “after” set of calibration star observations, made with similar sky conditions and identical instrument settings. In this case the calibration measurements were taken in 2009 and 2010, while the target measurements were acquired on 2013.

Overview.txt/Documentation/Data Processing

Among the calibration images there are data for HD 1386, HD 224251, HD 224251 and they were all acquired in 2013. The document needs to be fixed it.

Overview.txt/Documentation/Data Set Overview

Data Set Overview

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Triplespec has a resolving power of ~ 3500 and a sky-projected slit size of 1.1×40 arcsec. The spectral range is 0.95-2.46 microns.

Parameters

The raw data are presented as spectral images in FITS files. The reduced data are in FITS files containing three separate arrays. Each array is 5×2048 , with the first axis identifying the spectral order and the second axis the dispersion axis. The first array in each file contains the wavelength in microns sampled at each spectral order. The second array contains flux in watts per square meter per micron. The third array is uncertainty.

The file result = readfits('processed_sats/ariel_85_proc.fit') is 2048 by 5 array=> No 5X2048

Also the plains are

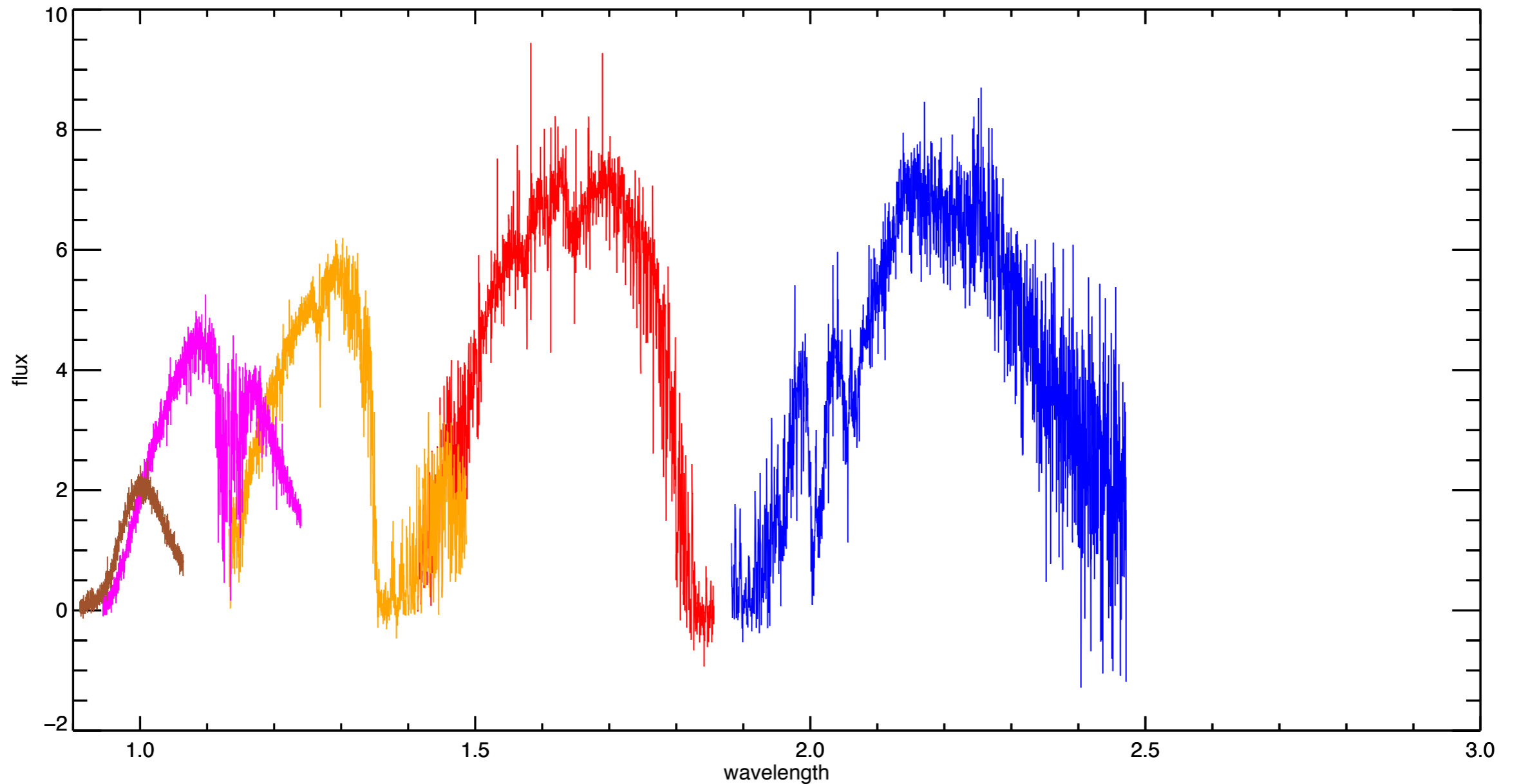
1. flux_array

2. err_array

3. wavelength_array

Data Processing

Ariel



I recommend to provide calibrated data for the solar analogues as well