

- (2) The AOTF tuning function file (AOTF_F_WN.TAB) contains the values of the parameters converting AOTF frequency into diffraction order central wavenumber, and vice-versa;
- (3) Files containing the AOTF transfer function (AOTF_TF_BINNINGXX.TAB, with XX the binning option): one file per binning option. For example, the file AOTF_TF_BINNING12.TAB contains the 94 transfer functions for all orders from 101 to 194 for bins 1 and 2. The function is given on a fixed wavenumber scale defined by 3 parameters (starting wavenumber, step and number of points);
- (4) The blaze function for each order (BLAZE.TAB file).

The files containing the SOIR spectra are given in the DATA directory, one observation in one individual directory having the name described above (YYMMDD_TCC). The spectra are in the files YYYYMMDD_TCC_OOO.TAB, where OOO is the order selected. One line of such a file contains the information on one spectrum of one particular bin (for example, for the binning option '12', there are 2 lines, one for each bin). For each bin, the corrected transmittance, the noise and the polynomial coefficients to calculate the calibrated wavenumber scale are given. The polynomial to calculate the wavenumber scale corresponds to the analysis described in this study (see Section 0). A series of parameters describing the observation are also given, including the date and time, the position of the satellite and viewing geometry. All parameters needed for the interpretation of the spectra are included. Some housekeeping parameters are also provided to follow the status of the instrument during the occultation.

11. Conclusions

We have presented several improvements in the calibration and characterization of the SOIR instrument introduced in the data pipeline since [8]. They concern mainly the spectral calibration which has been improved by not only considering solar lines but also atmospheric absorption lines in each individual order of the instrument. The characterization of the ILS has also improved by considering a large number of atmospheric lines compared to the limited number of solar lines that were previously used for this purpose. The detailed investigation of the noise on each individual pixel has led to the determination of noise spectra defined for each spectrum, as it was shown that this noise pattern was highly dependent on the observation settings. We have also described the data archive for the SOIR instrument, describing what information should be found in which file. We believe that this paper, along with the archived data, allow the potential user to take full advantage of the richness of the SOIR spectra. We encourage users to make use of the archived spectra and data.

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