

# Update on PMOD/WRC Solar Reference spectrum

Margit Haberreiter, Nigel Fox, Tom Stone, Werner Schmutz

PMOD/WRC

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# PMOD/WRC Reference Spectrum

- SOLID Composite will be used for the absolute scale
  - Haberreiter et al. (2017), JGR, Vol. 122, Issue 6, 5910-5930, doi: 10.1002/2016JA023492
  - In agreement with TSI value as recommended by IAU 2015 Resolution (Prsa et al, 2016)
- COSI high-resolution synthetic spectrum
  - NLTE radiative transfer code
  - Developed at PMOD/WRC

# PMOD/WRC Reference Spectrum

- Haberreiter, M., Fox, N. et al., in preparation
  - Normalization of COSI high-resolution spectrum using SOLID solar minimum spectrum
  - Careful evaluation of normalization function
  - Combined uncertainty of datasets
    - Absolute accuracy of SOLID composite from ATLAS3: 2-3 % (from Thuillier et al., 2003)
    - high resolution component from COSI calculation: 5% (of the order of the absolute scale, currently under evaluation)
    - Synthetic spectrum will be constrained by SOLID min 2008 spectrum

# Release of PMOD/WRC Reference Spectrum

- beta-version is becoming available end of the month

*Contact: [margit.haberreiter@pmodwrc.ch](mailto:margit.haberreiter@pmodwrc.ch)*

- final version will be released with acceptance of paper Haberreiter, Fox, et al. (2018) at:

<ftp.pmodwrc.ch/pubSolarReferenceSpectrum/>

- Further information can be found at:

<https://www.pmodwrc.ch/en/research-development/solar-physics/solar-spectrum/>

# Details of PMOD/WRC Reference Spectrum

- Spectral Coverage
  - 380 - 2000 nm: SSI observational composite
  - 300 - 15000 nm: COSI synthetic spectrum
- Spectral Resolution
  - SSI composite  $\leq 623$  nm: 1nm
  - SSI composite  $> 623$  nm: 2nm (and coarser)
  - COSI: 0.005 nm (or higher)
- Solar Activity Level
  - Solar minimum: annual mean of 2008