

PMOD/WRC Solar Reference spectrum derived from observational solar irradiance composite

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PMOD/WRC

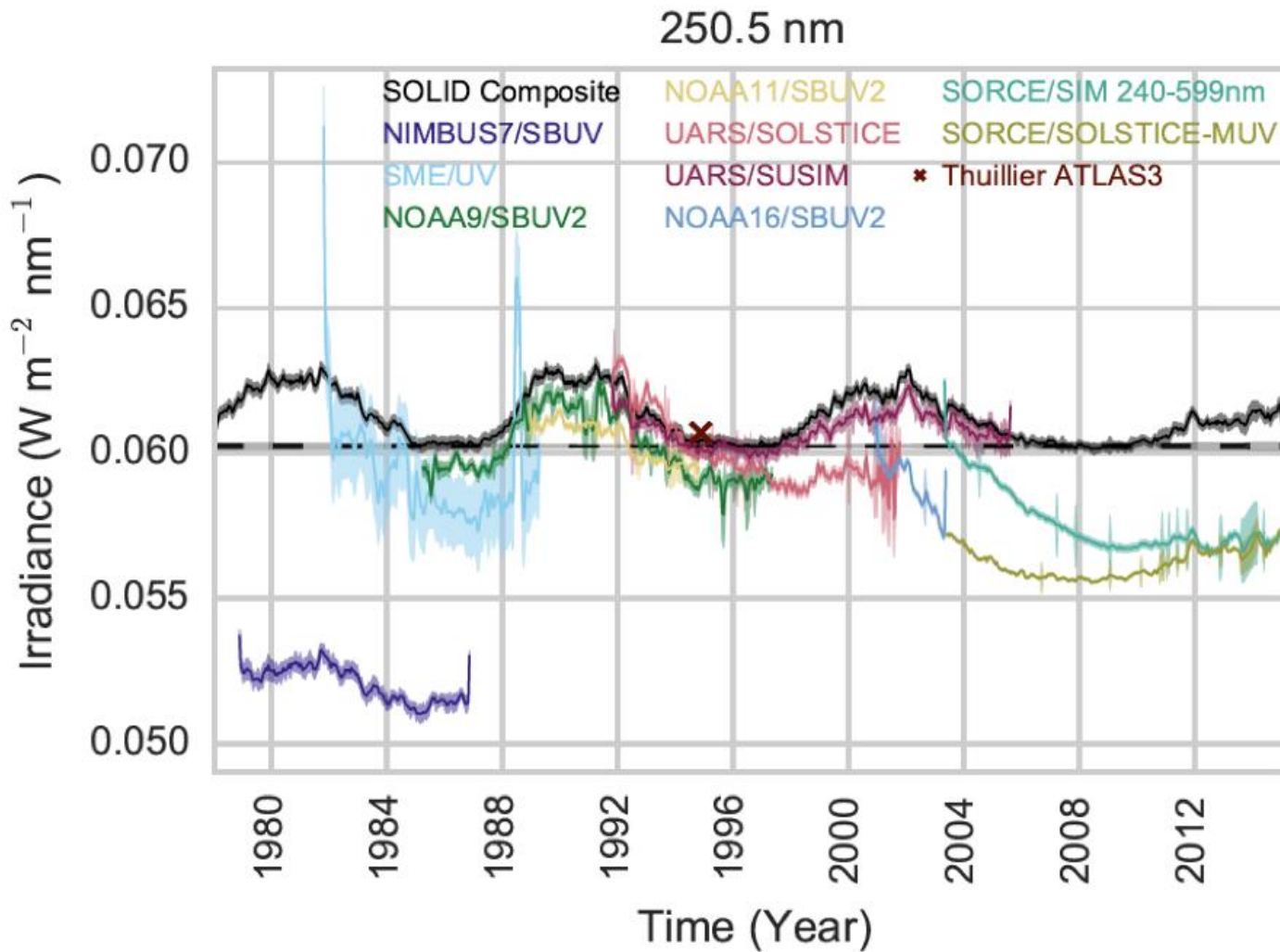
March 16, 2017

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PMOD/WRC Reference Spectrum

- Spectral Coverage
 - 380 - 2000 nm: SSI observational composite
 - 2000 - 15000 nm: COSI synthetic spectrum
- Spectral Resolution
 - ≤ 623 nm: 1nm
 - > 623 nm: 2nm (and coarser)
 - > 2000 nm: very high resolution
- Solar Activity Level
 - Solar minimum, i.e. annual mean of 2008
 - Specific date of observation (e.g. ATLAS3)

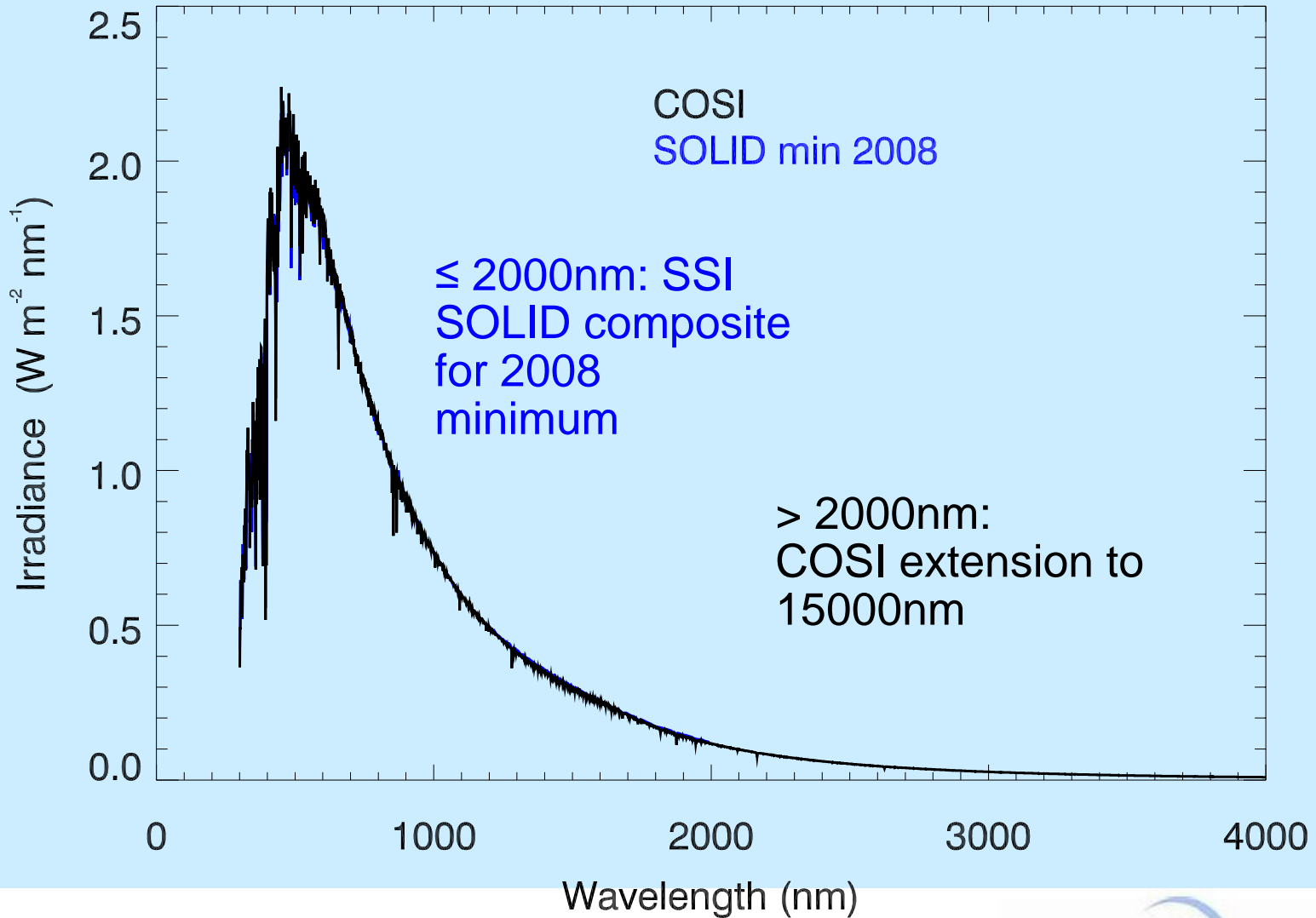
SOLID composite



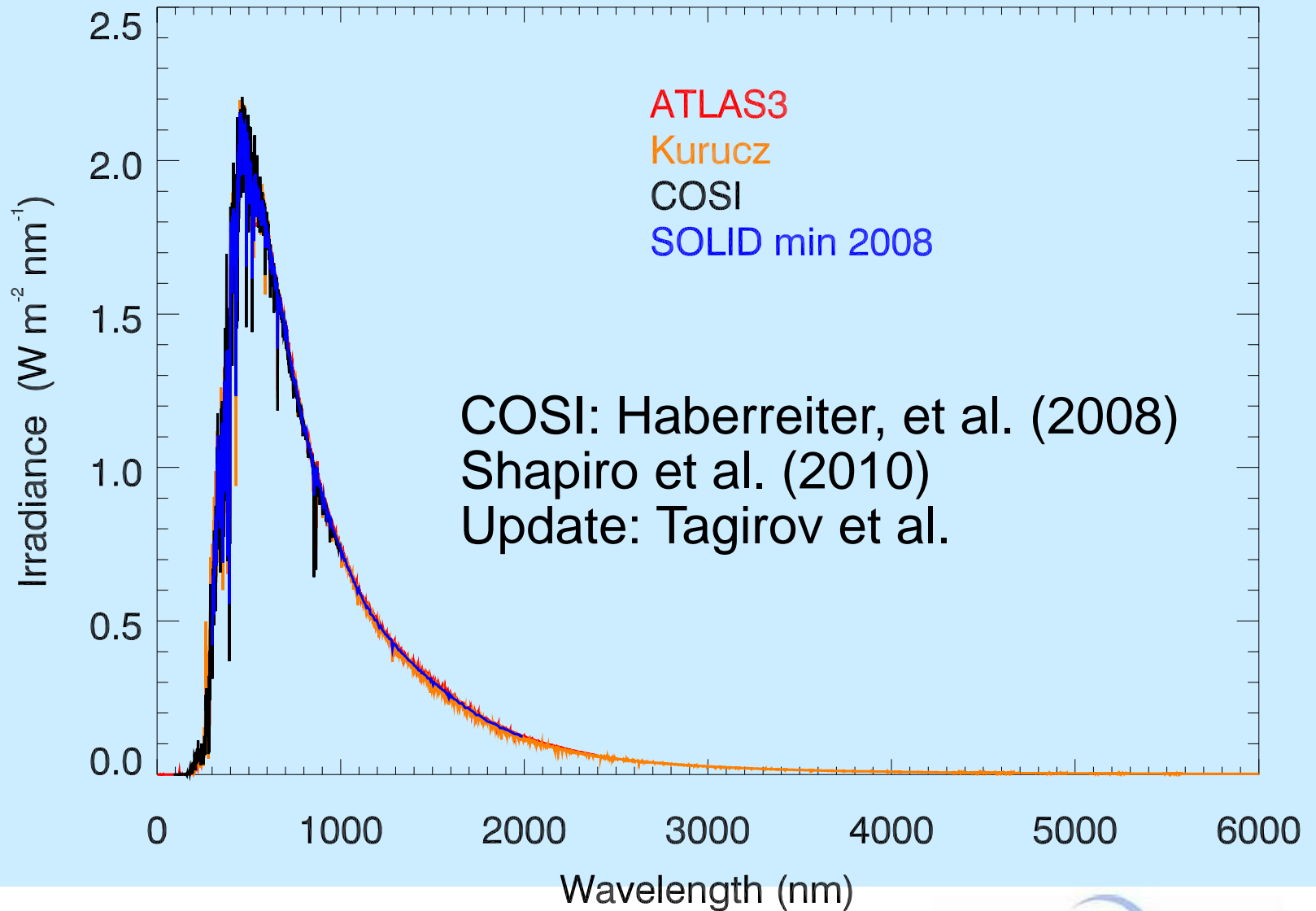
Haberreiter et al., 2017, under minor review

CEOS WGCV IVOS Discussion, March 16, 2017 Margit Haberreiter

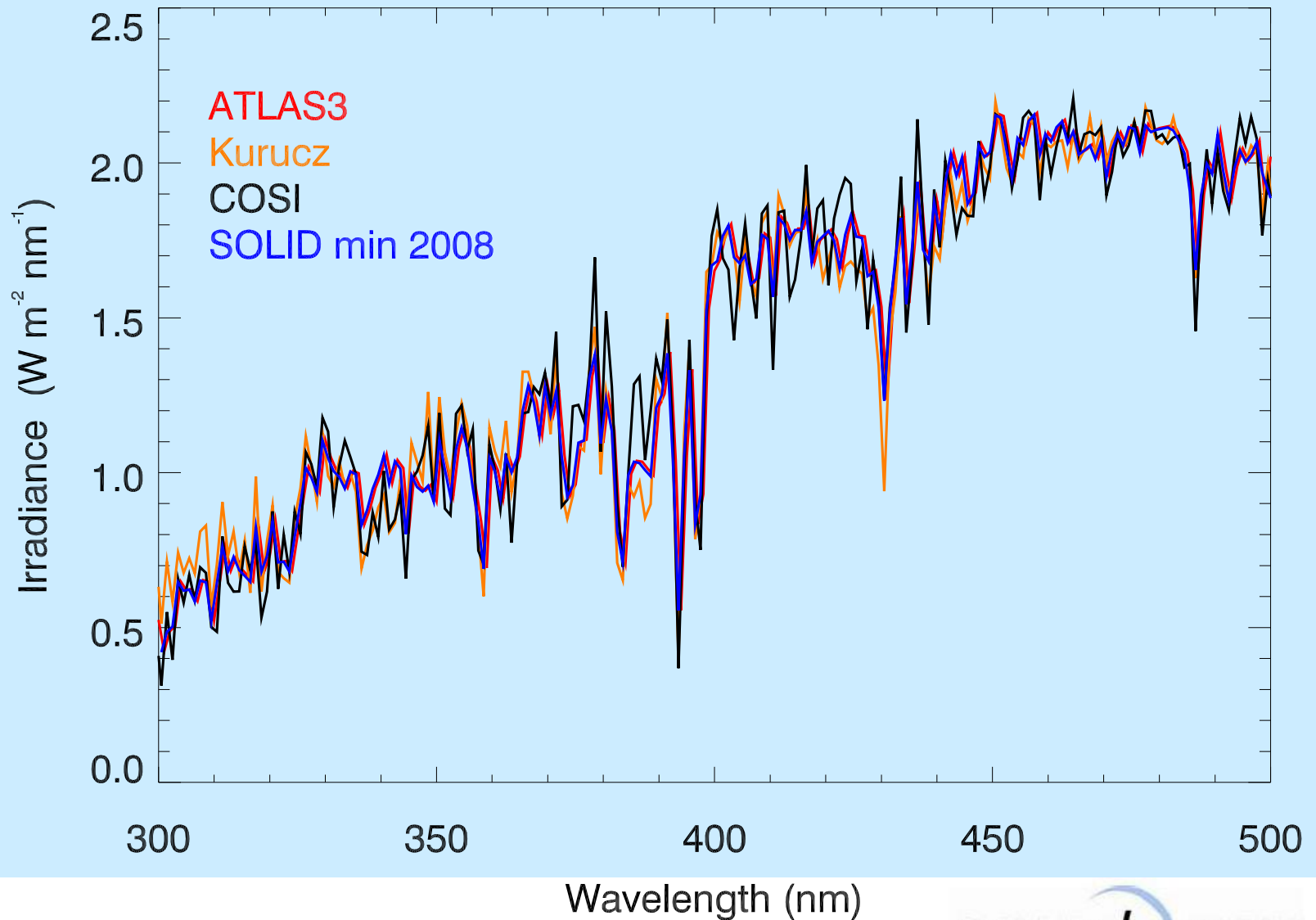
PMOD/WRC Reference Spectrum



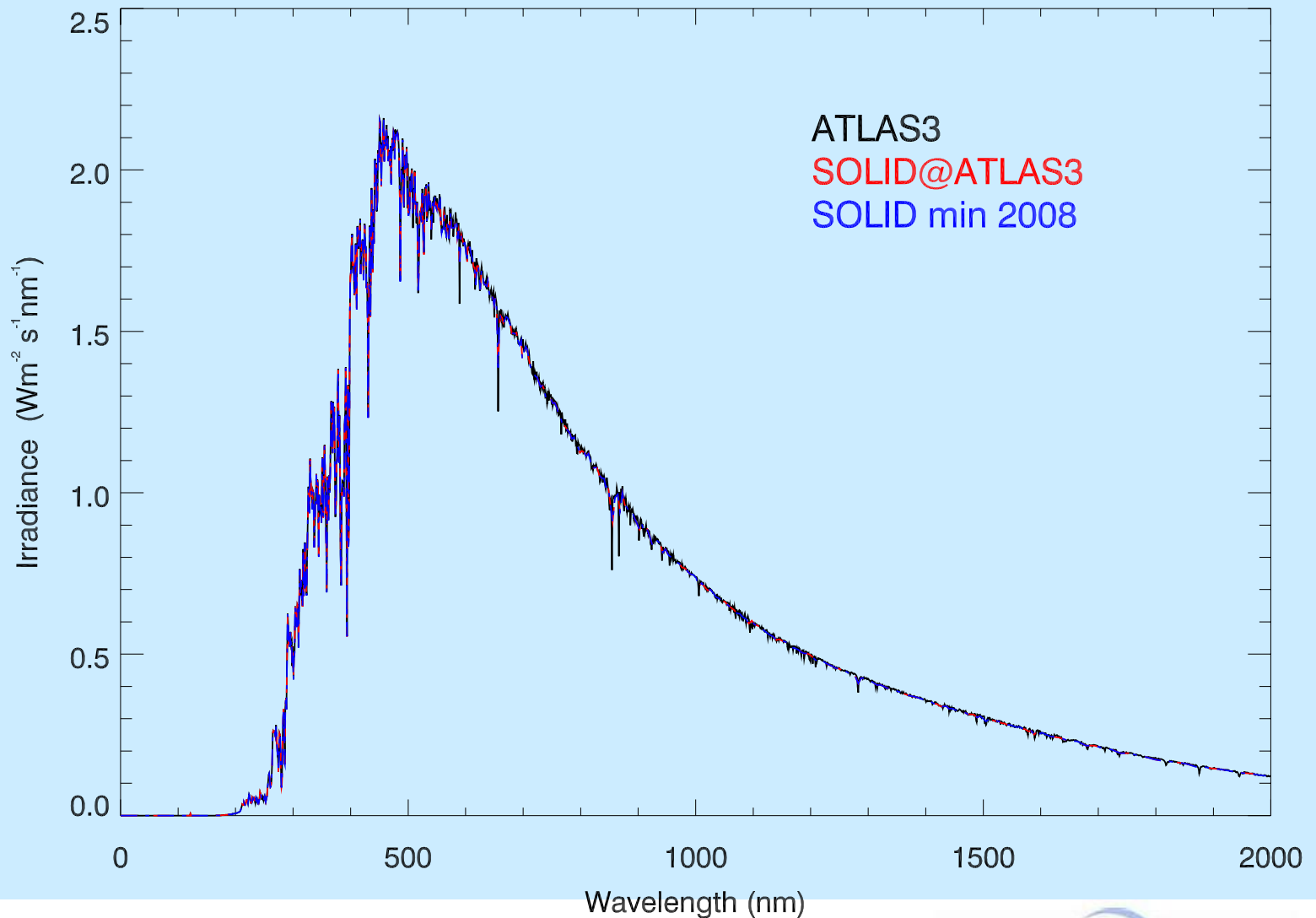
Observations and Models



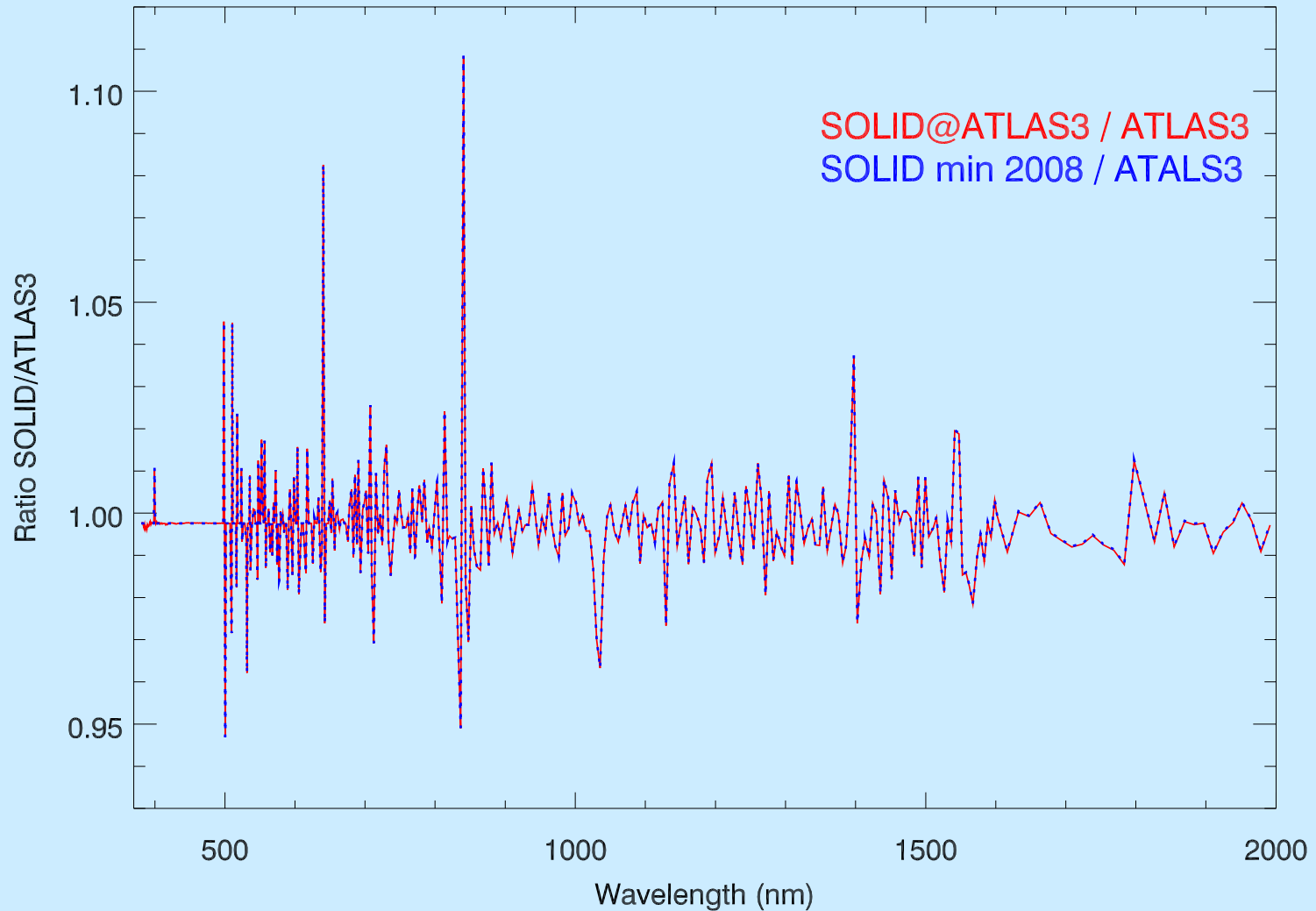
Observations and Models



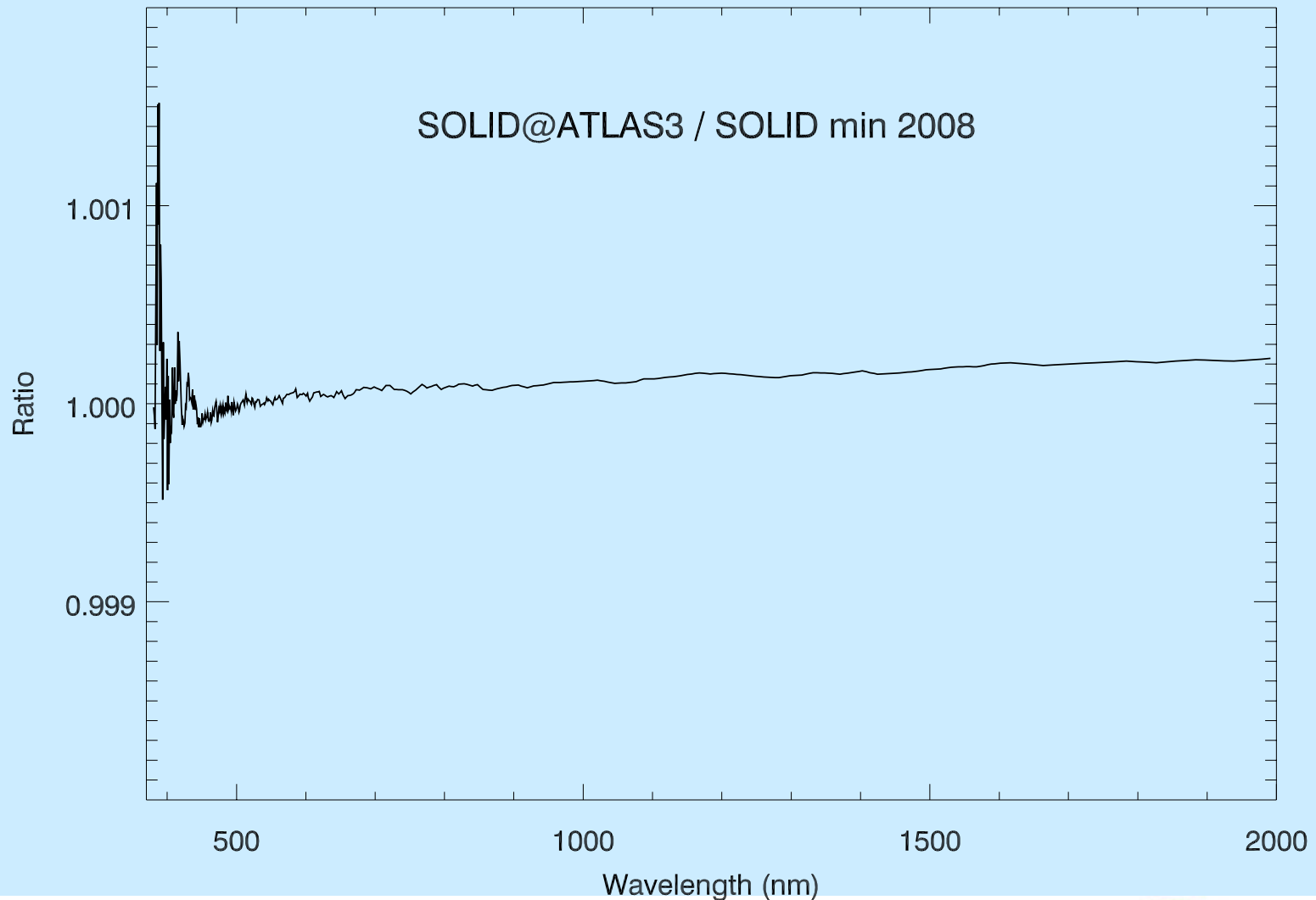
Comparison SOLID and ATLAS3



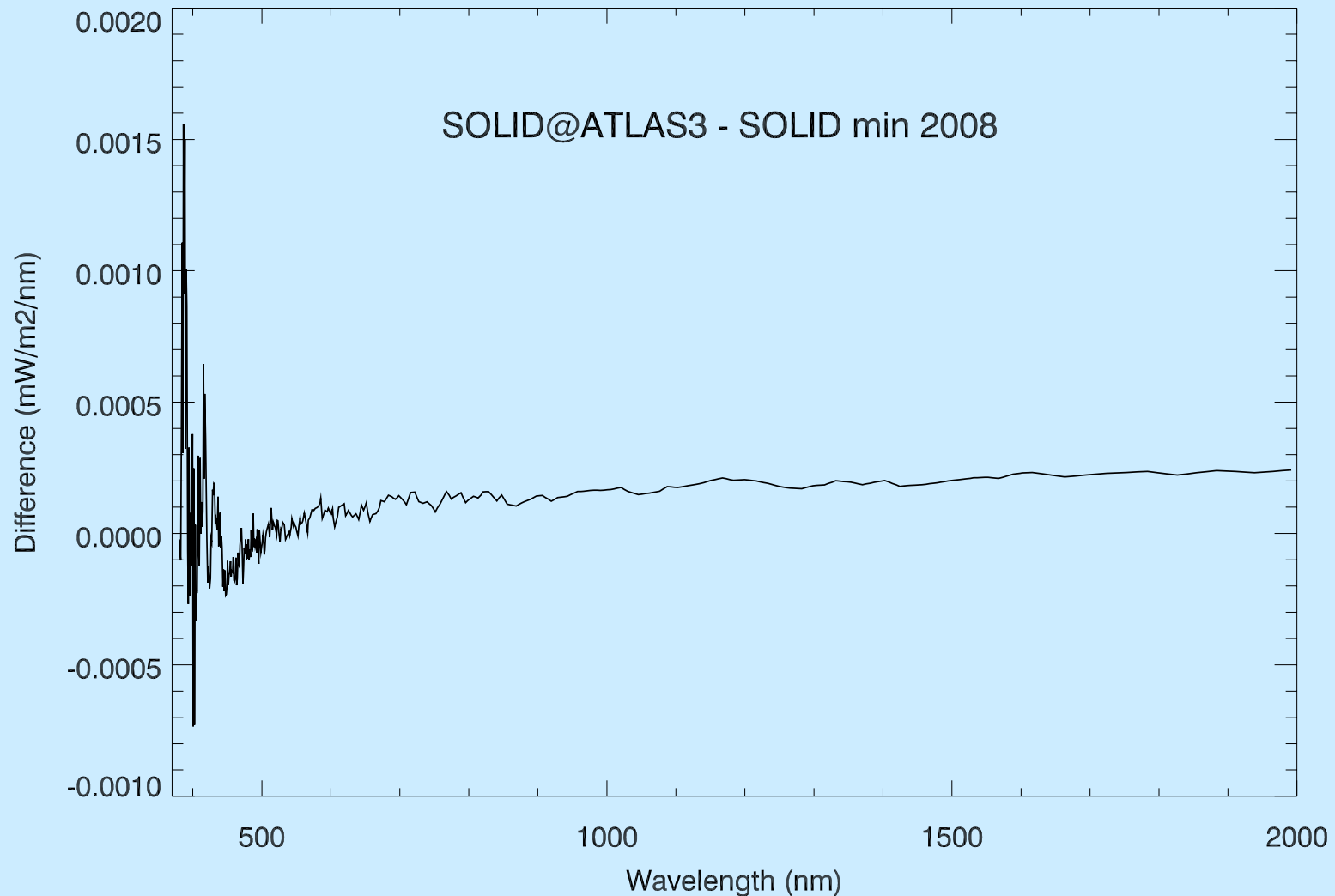
Ratio of SOLID vs ATLAS3



Ratio of SOLID@ATLAS3 vs SOLID min 2008



Absolut Difference of SOLID spectra for different activity level



Advantages of SOLID + COSI dataset

- 2008 Solar minimum Reference Spectrum based on SOLID SSI observational composite
- Extension to 15 μ m using COSI calculations
- Good agreement between COSI quiet Sun calculation and SOLID SSI 2008 composite
- Adaption to solar cycle activity through SSI composite possible