



**HAL**  
open science

## A new observational solar spectral irradiance composite

Margit Haberreiter, Micha Schöll, Thierry Dudok de Wit, Matthieu Kretzschmar, Stergios Misios, Klairie Tourpali, Werner Schmutz

### ► To cite this version:

Margit Haberreiter, Micha Schöll, Thierry Dudok de Wit, Matthieu Kretzschmar, Stergios Misios, et al.. A new observational solar spectral irradiance composite. 20th EGU General Assembly, 2018, Vienne, Austria. pp.10623. insu-03566330

**HAL Id: insu-03566330**

**<https://insu.hal.science/insu-03566330>**

Submitted on 11 Feb 2022

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution 4.0 International License



## **A new observational solar spectral irradiance composite**

Margit Haberreiter (1), Micha Schöll (1), Thierry Dudok de Wit (2), Matthieu Kretzschmar (2), Stergios Misisos (3), Klairie Tourpali (4), and Werner Schmutz (1)

(1) PMOD/WRC, Solar Physics, Davos Dorf, Switzerland (margit.haberreiter@pmodwrc.ch), (2) LPC2E/CNRS and University of Orléans, Orléans, France, (3) Oxford University, Oxford, UK, (4) Aristotle University of Thessaloniki, Thessaloniki, Greece

Variations in the solar spectral irradiance (SSI) are an important driver of the chemistry, temperature, and dynamics of the Earth's atmosphere and ultimately the Earth's climate. To investigate the detailed response of the Earth's atmosphere to SSI variations, a reliable SSI data set is needed. We present the recently published observational SSI composite data set that is based on 20 instruments and has been built by using probabilistic approach that takes into account the scale-dependent uncertainty of each available SSI observation. We compare the variability of this new composite with available SSI reconstructions and discuss the respective modeled responses in the Earth's atmosphere. Also, future work to further improve the dataset are discussed.