

SOLID – a European Project towards a Comprehensive Solar Irradiance Data Exploitation

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Variations of solar irradiance are the most important natural factor in the terrestrial climate and as such, the time dependent spectral solar irradiance is a crucial input to any climate modelling. There have been previous efforts to compile solar irradiance but it is still uncertain by how much the spectral and total solar irradiance changed on yearly, decadal and longer time scales. Observations of irradiance data exist in numerous disperse data sets. Therefore, it is important to analyse and merge the complete set of irradiance data. We report on the initiation of the European collaborative effort SOLID to bring together all European groups involved in irradiance modelling and reconstruction along with collaborators in the US. The project includes the detailed analysis and compilation of all existing SSI and proxy data sets. Furthermore, two different state of the art approaches to produce reconstructed spectral and total solar irradiance data as a function of time are employed, the empirical and semi-empirical modeling of the SSI. These reconstruction results will be used to bridge gaps in time and wavelength coverage of the observational data. This will allow the SOLID team to reduce the uncertainties in the irradiance time series - an important requirement for any user community. In this talk an overview of the SOLID project will be given, along with a more detailed discussion of the reconstruction of the EUV irradiance variations.