



The solar irradiance: observations and modelling

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The knowledge of the solar spectral irradiance (SSI) and its variability is an essential parameter for space weather and space climate studies. Many observations of the SSI have been performed in a recent past, but the level of confidence is rather low when considering long time scales, since space instruments are often suffering from degradation problems. Many SSI models have been also developed, and some of them are excellent inputs for many space climate models.

We will then review the different data sets available of the SSI for the short term time-scales as well as for the long term, including both observations and models. We will also emphasize about our new irradiance model, COSIR for Code of Solar Irradiance Reconstruction, which is successful at reproducing the solar rotational modulation as seen in the PREMOS, Virgo and SORCE data.