Long term accuracy of solar irradiance measurements: a common analysis of several datasets for the SOLID project.

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Since the 60's, numerous instrument have been sent in space to measure the solar irradiance at different wavelengths. These observations have been used to build or validate models that predict the irradiance at unobserved times or wavelengths. However, as it is well known, the stability of instruments in space is difficult to maintain and there are significant disagreements between various observations and models. We will present an ongoing effort made within the SOLID project to consistently assess the long term accuracy of several irradiance datasets. In more details, we compare several datasets with empirical models at different time scales in a -as much as possible-similar way to detect behaviors that could hardly be attributed to the Sun.