

The History and Future of TSI and SSI Measurements

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I summarize the total and spectral solar irradiance measurements acquired from space, discussing their accuracies and long-term stabilities critical for studies of Earth climate and solar variability. I also present future needs and improvements for these measurements, describing the temporal and solar variability regimes in which either measurement absolute accuracy or stability combined with continuity have the greatest importance. I then discuss how long-term solar variability detection thresholds drive future mission frequency and longevity.