

Brightness Variations of Solar Analogs during Activity Cycles and Grand Minima

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Observations of Sun-Like Stars can be used to infer the probable envelope of solar brightness excursions prior to the advent of direct measurements. Of particular interest are (1) observations of secular activity and brightness changes in stars at successive activity cycle minima and (2) examination of the brightness variations of stars in, and transitioning to and from, grand minima. The time series of solar analogs from Lowell Observatory's Solar-Stellar Spectrograph (SSS) project now span 10-13 years for most true solar analogs of $V < 7.5$, and for most of these targets, we also have a decade or more of contemporaneous photometry from Tennessee State University's Automatic Photometric Telescopes at Fairborn observatory. In this talk, I will (1) provide the requested brief tutorial of the field, (2) present the photometric and spectroscopic time series for targets exhibiting some of the key phenomena noted above, and (3) discuss what our present understanding of the long-term behavior of solar analogs implies for the brightness history of the Sun, especially in regard to its transitions to and from Maunder Minimum-like phases.