



Solar Ultraviolet Irradiance Variability During the NASA TIMED Mission

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The NASA TIMED satellite was launched in December 2001 near solar cycle maximum. The solar activity remained at solar maximum conditions during 2002 and has declined to solar minimum levels in 2008. In addition to observing daily long-term variations of the solar ultraviolet (UV) irradiance, there have been several large solar storm periods throughout the TIMED mission. As part of the TIMED mission objective to study the energetics of the upper atmosphere, the Solar EUV Experiment (SEE) aboard TIMED measures the solar extreme ultraviolet (EUV) energy input. The SEE instrument is measuring the solar UV irradiance with a 3% duty cycle (3 minutes each orbit) and with a spectral resolution of 0.4 nm between 27 and 194 nm and with 7-10 nm resolution shortward of 27 nm. The solar UV irradiance varies on all time scales, seconds to years, and this variation is very dependent on wavelength. The variations of the solar UV irradiance shortward of 194 nm, on time scales of minutes to years, will be discussed in the context of space weather applications such as satellite drag and influence on communication and navigation systems. TIMED SEE web site is <http://lasp.colorado.edu/see/> .