

Title: SOLAR ULTRAVIOLET SPECTRAL IRRADIANCE MONITOR (SUSIM)

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Short Description: SUSIM measures the ultraviolet flux from the entire Sun with high absolute accuracy over the wavelength range 120 to 400 nm with a resolution of 0.1 nm. SUSIM consists of two identical double-dispersion scanning spectrometers with 5 photodiodes, 2 photon counters, and a deuterium lamp calibration source, all sealed in a canister pressurized to 1.1 atmosphere of argon. One spectrometer is used almost continuously during sunlight; the other is used once per day as a calibration check. The observations will yield improved absolute measurements of the ultraviolet solar fluxes, provide an accurate reference for studies of variability of the solar fluxes on the time scales of the solar cycle and longer, and measure shorter term changes as well. These measurements complement the ACR measurements of the total solar irradiance. The data will be used to study the physical behavior of the Sun and the Earth's atmosphere, weather, and climate.

Instrument Characteristics:

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| Mass: | 135 kg |
| Volume: | 0.5 cubic meters |
| Power: | 700 watts |
| Data Rate: | 0.5 kbps |
| Pointing: | Direction: Sun; Accuracy: 5 arc min; Scanning range: 0.5 deg |

General Comments: SUSIM will fly on Spacelab 2 and on Sunlab.

For more information, contact: Dr. Guenter Brueckner, Naval Research Laboratory

