been determined for continua and selected strong emission lines between 1200 Å and 2100 Å, using spectra obtained from Skylab and from sounding rockets. We find values of 10 (1600 Å), 3 (1800 Å), 2 (1900 Å), and 1 (2100 Å) for the ultraviolet continuum. The contrast for H Ly-α is 3.5. A minimum value for the solar variability has been derived under three assumptions: (a) the enhanced UV radiation originates from the same plage areas as observed in Ca II K$_{2}$ images, (b) our contrast values are typical, (c) average quiet and plage intensities per unit surface area are constant over the solar cycle. A high spatial resolution photograph of a plage obtained from a sounding rocket on 13 February 1978 supports assumption (a) for the 1600 Å continuum. Approximately 20% of the flat disk area was covered by plage at the solar maximum of 1958 according to Sheeley (Ap. J., 147, 2196), while the sunspot number reached a monthly average value in excess of 200. For such a strong solar cycle the ratio of full disk flux at solar maximum to that at solar minimum will be 1 (cont. at 2100 Å), 1.20 (cont. at 1800 Å), 1.60 (cont. at 1600 Å), 2.80 (cont. at 1400 Å), and 1.50 (H Ly-α).

04.13.03 Variations in the Solar Brightness due to Active Regions. G.A. CHAPMAN, San Fernando Observatory, Calif. State U., Northridge, CA 91330 - Observations of faculae and sunspots obtained with the Extreme Limb Photometer (Chapman, G.A., Phys. Rev. Lett. 38, 755, 1975) are presented as fractional changes in the mean solar brightness. These observations were obtained at $\lambda = 0.52$ µm with a bandpass of $\Delta \lambda = 0.07$ µm. Observations were obtained in 1974 and 1975 of sunspots near disk center and faculae near the limb. Estimates of the brightness deficits of sunspots are often made from their area and assumed contrast. Such estimates may be substantially in error preventing accurate comparisons with other forms of synoptic total disk brightness monitors. For example the estimated effect of Mt. Wilson sunspot No. 19448 (9 Aug. 74) gave a fractional decrease in solar brightness, $\Delta B/B \approx -1 \times 10^{-2}$, whereas the photometric value was $\Delta B/B \approx -1 \times 10^{-3}$. We find for sunspots the relation $\Delta B/B \approx 2.1 \times 10^{-2}$, whereas the photometric value was $\Delta B/B \approx -1 \times 10^{-3}$. For faculae about 6° - 30° from the limb we find $\Delta B/B \approx (1.2 \pm 1) \times 10^{-2}$, where $A$ is the fraction of a hemisphere. For faculae about 6° - 30° from the limb we find $\Delta B/B \approx (1.2 \pm 1) \times 10^{-2}$, where $A$ is the fraction of a hemisphere. Faculae are often made from their area and estimated contrast. Such estimates may be substantially in error preventing accurate comparisons with other forms of synoptic total disk brightness monitors. For example we find $\Delta B/B \approx (1.2 \pm 1) \times 10^{-2}$, whereas the photometric value was $\Delta B/B \approx -1 \times 10^{-3}$. We find for sunspots the relation $\Delta B/B \approx 2.1 \times 10^{-2}$, whereas the photometric value was $\Delta B/B \approx -1 \times 10^{-3}$. For faculae about 6° - 30° from the limb we find $\Delta B/B \approx (1.2 \pm 1) \times 10^{-2}$, where $A$ is the fraction of a hemisphere. Faculae are often made from their area and estimated contrast. Such estimates may be substantially in error preventing accurate comparisons with other forms of synoptic total disk brightness monitors. For example we find $\Delta B/B \approx (1.2 \pm 1) \times 10^{-2}$, whereas the photometric value was $\Delta B/B \approx -1 \times 10^{-3}$. We find for sunspots the relation $\Delta B/B \approx 2.1 \times 10^{-2}$, whereas the photometric value was $\Delta B/B \approx -1 \times 10^{-3}$. Faculae are often made from their area and estimated contrast. Such estimates may be substantially in error preventing accurate comparisons with other forms of synoptic total disk brightness monitors. For example we find $\Delta B/B \approx (1.2 \pm 1) \times 10^{-2}$, whereas the photometric value was $\Delta B/B \approx -1 \times 10^{-3}$. We find for sunspots the relation $\Delta B/B \approx 2.1 \times 10^{-2}$, whereas the photometric value was $\Delta B/B \approx -1 \times 10^{-3}$.

04.13.04 The Extreme-Ultraviolet Solar Cycle, J. Gethyn Timothy, LASP University of Colorado, Boulder. There is evidence for a large variability in the solar extreme-ultraviolet irradiance over the solar cycle. The magnitude of the variability as a function of wavelength and its relationship to the dynamics of the outer solar atmosphere have yet to be determined. We are initiating a series of measurements to address those questions and will discuss their relevance to SCADM.

06.13.03 Total Solar Energy Output and its Measurement, V. DOMINGO, Space Science Dept. of ESA, The Netherlands. Our present effort to measure the total solar energy output (solar constant) is described and the way the present techniques can be improved to be able to measure the expected variations of the solar radiation, is discussed.