**Recent Eclipse Data and the Solar Limb.** K. B. Gebbie, Joint Institute for Laboratory Astrophysics, S. R. Weart and R. N. Thomas, Joint Institute for Laboratory Astrophysics and California Institute of Technology.—The Thomas–Athay model (1961) of the lower solar chromosphere and upper photosphere was incomplete in the region \(0 < h < 500\) km because of a lack of data in the continuum. To obtain data in the continuum at these heights, including a considerable overlap on the solar disk and at greater heights, Faller and Jefferies introduced a scheme of rapid photoelectric observations that has been used by Faller and Weart to obtain data at the 1966 eclipse. Weart has presented (1968, thesis, University of Colorado) preliminary results on the continuum at 6404 and 5278 Å. These suggest that the data are not as would have been predicted by existing models of the region \(-200 < h < 1000\) km. The presence of thin clouds introduces some uncertainty into the absolute calibration of the data. The data below the Balmer discontinuity are not yet available. We have reanalyzed Weart's original data in an attempt to set limits on the variety of \(T_\alpha(h)\) models not actually excluded by these data.

**A New Solar Model Atmosphere.** Owen J. Gingerich, Smithsonian Astrophysical Observatory and Harvard College Observatory.—The rocket observations reported at this meeting by Parkinson and Reaves fall in a particularly interesting region of the ultraviolet solar spectrum, where the radiation arises from the coolest layers of the sun’s atmosphere. Similarly, the airborne infrared observations near 300 \(\mu\) reported by Eddy, Lena, and MacQueen must also arise from the minimum temperature region of the sun. The observed brightness temperatures from these two regions, 4400° and 4300°, respectively, require a lower temperature minimum than in the Bilderberg Continuum Atmosphere (BCA), in which a minimum of 4600° occurs along an extended zone.

A new solar model has been computed with a gradual temperature decline outward to log \(T\) = \(-4\), with a minimum of 4200°, followed by an abrupt chromospheric temperature rise. The downward slope is sufficiently gentle to satisfy limb-darkening observations both in the ultraviolet and in the infrared. In the deeper layers from \(\tau = 1\) downward, the temperature has been considerably raised compared to the BCA in order to produce agreement with the continuum points measured by Labs and Neckel in the visible spectrum. However, their standard points for wavelengths shorter than 4200 Å have been based on a scaled version of the BCA; after the Bilderberg model was calculated, Cuny discovered the importance of opacity from the Lyman-alpha self-broadening wing, which plays an important role in depressing the continuum even at 4000 Å. The new model agrees well with ultraviolet intensities measured by Houtgast when appropriately high temperatures are used at large optical depths.

Scaling errors between the opacity at 1 mm and at 5000 Å caused the chromospheric temperature rise in the BCA model to be placed accidently at too shallow an optical depth. Among the consequences of this correction is the fact that the new model, using LTE and hydrostatic equilibrium, predicts within a factor of 3 the electron density recently derived from eclipse observations by Henze. The new model predicts within observational limits the continuum intensity from centimeter wavelengths to the Lyman limit, including the ultraviolet region between 911 and 1400 Å, where new observations were obtained from the Harvard spectrometer aboard OSO 4. The only exception to this statement occurs in the region just redward of the 1683-Å excited silicon discontinuity, where one or more opacity sources are missing from the model.

**The Oblique Shock of the Proton Flare of 7 July 1966.** Eugene W. Greenstadt, TRW Systems, Redondo Beach, California.—The first opportunity to make a three-point satellite measurement of the orientation of an interplanetary shock segment occurred on 8 July 1966 for the sudden commencement shock generated by the proton flare of 7 July. The time sequence of shock observations by Vela 3A, Explorer 33, and Imp 3, yields a highly oblique geometry: The shock outward normal pointed approximately 65° below the ecliptic plane, and the projection of the normal on the ecliptic, was directed some 16° each of the solar radial line. The shock orientation is consistent with a driver gas northwest of the Earth emanating from the flare at 34°N 48°W. The results exclude a symmetric blast wave in this case, but can be explained by a flattened, magnetically confined, asymmetric “tongue” of flare plasma emitted from the field configuration of the active center and driving the shock through the interplanetary medium.

**High-Resolution Solar Spectra between 1.2 and 24 microns.** Donald N. B. Hall, Department of Astron-