one with H and the revised H^- absorption appeared to be insignificantly small. On the other hand, the inclusions of metals or metallic plus quasi-molecular hydrogen absorptions produced considerable effects in the final models, although the additional absorptions are sensitive only in the regions beyond the Balmer discontinuity. Except for the surface and the deepest layers, the molecular absorption predominates metallic absorption in the region between about $\lambda\lambda$ 1600 and 4000 Å, and the metals contribute only in the far ultraviolet region.

The continuous spectrum at the center of the sun's disk computed from the model including both absorptions by metals and H_2 molecule has shown a remarkable agreement with observations not only in the violet but in the visible regions, whereas the energy distributions predicted by three other models appeared too high in the violet and too low in the longer wavelength regions. Still about 15% lower theoretical intensities in the region $\lambda\lambda$ 3700–7000 Å may be due to the omission of line-blanketing effect.

If Erkovich's value for $(H+H^-)$ absorption coefficient was truly an overestimate, as was suggested by Solomon in his criticism, our computations suggest that at least an additional source of opacity, far exceeding that of metals, is needed to explain spectroscopic observations in the violet continuum of the solar-type stars.

Observations of the Center of the Galaxy at 5000 Mc/sec (C Band). A. MAXWELL AND D. DOWNES, *Harvard Radio Astronomy Station, Fort Davis, Texas*.—This paper describes a set of observations of the galactic center made at 5000 Mc/sec with a parametric receiver and an 85-ft antenna. The antenna beamwidth is 10'8 arc and the positional accuracy is estimated as 1'0 arc in both declination and right ascension. Within these limits, the position of the bright central component is estimated to be at declination $-28^\circ 57'.5$ and right ascension $17^h 42^m 27^s$ (epoch 1950). This position is in good accord with other observations in the microwave band and in fair agreement with the zero of the new (l^{IIbII}) galactic coordinate system. The flux density of the central component at 5000 Mc/sec is calculated to be 300×10^{-26} mks units. This flux value is compared with other observations in the microwave band, but because of ambiguities in the existing measurements it is difficult to determine the spectral index of the central component.

A Patrol of the Sun in White Light. PATRICK S. MCINTOSH AND FRANK Q. ORRALL, *Sacramento Peak Observatory*.—In February 1963 we began a patrol of selected regions of the sun in white light

using the 12-in. horizontal telescope at Sacramento Peak. A study of these films indicates that a patrol of the entire disk throughout every day would be of great value. In September 1963 we began such a patrol using a 6-in. telescope mounted on the 12-ft equatorial spar. At present, a 27-mm image is recorded on 35-mm Eastman Kodak 649-GH emulsion in yellow light isolated by an OG 2 Schott filter and the long-wave cutoff of the emulsion. We use an Acme motion picture camera with a maximum exposure speed of about 1/50 sec. Exposures are made every 30 sec during good seeing and every 2 min the remainder of the time. This gives enough sufficiently good frames to follow sunspot evolution and to record white-light flares.

We plan to replace the present lens with one producing a 21-mm image, which will allow 35-mm film to record the entire image. In addition, we plan to photograph sunspots at shorter wavelengths and at faster shutter speeds.

Our pictures frequently show the theoretical resolving power of the 6-in. system and, therefore, allow observation of fine details in sunspot evolution. Pore activity is observed even with mediocre seeing conditions, so that on most days it is possible to see the very initial stages of sunspot formation. During excellent seeing we can see frame to frame changes in the fine structure of sunspots and granulation.

This patrol is producing a large quantity of information for studies of sunspots, pores, faculae, and granulation. We hope these studies will eventually permit a degree of prediction of solar activity. We feel that this program will contribute valuable information for use during the coming Year of the Quiet Sun.

Model Atmosphere Studies of Early Type Stars. DIMITRI MIHALAS, *California Institution of Technology, Mount Wilson and Palomar Observatories, and Carnegie Institution of Washington, Pasadena, California*.—A sequence of model atmospheres has been constructed on the range $0.1 \leq \theta_e \leq 0.7$ using an IBM 7090. The source function is given by the Milne-Eddington equation, which allows for coherent scattering. Flux constancy is enforced to $\pm 0.5\%$ or better by use of the Krook-Avrett procedure (Avrett, E. H., and Krook, M., *Astrophys. J.* **137**, 874, 1963), which has been modified simply to allow for scattering terms; this procedure is stable and quickly convergent. The opacity consists of absorption by H , H^- , He I, He II, and H_2^+ , Thompson scattering by free electrons and Rayleigh scattering by neutral H . We took account of the temperature and pressure dependence of the partition functions in the ionization equilibrium of