abundance at $X_{\text{ex}} \approx 4$ V corresponds closely to an inflection point in the calibration curve used to define the absolute scale of Corliss and Warner's gf values. Huber and Tobey (Scientific Report No. 16, Harvard College Observatory Shock Tube Spectroscopy Laboratory, 1967) have found evidence that this calibration curve is incorrect for lines with $X_u > 6$ V, where X_u is the excitation potential of the upper level of a transition. If Corliss and Warner's gf values are changed in the manner suggested by Huber and Tobey's data, the solar iron abundance decreases with increasing X_{ex} over the range $1 \lesssim X_{\text{ex}} \lesssim 5$ V. The results suggest that the excitation temperature of the Fe I lines is 500°K cooler than the photospheric local electron temperature or that there is a corresponding temperature-dependent error in the gf values.

Diffuse Galactic Radiation. ADOLF N. WITT (introduced by C. R. O'Dell), *Yerkes Observatory*.—New photoelectric measurements in three band-passes centered at $\lambda\lambda$ 3600, 4350, and 6100 Å were made of the intensity and distribution of the diffuse radiation in the Galaxy in the constellations of Cygnus and Taurus-Auriga. They were obtained with the 82-in. Otto Struve telescope and the 36-in. telescope of the McDonald Observatory in a procedure which minimized the influence of other light sources in the sky.

Scattering parameters of the interstellar particles, which cause the diffuse radiation, were derived by comparing the observations with predictions for currently discussed particle models based on a model for the transfer of radiation in the Galaxy (Henyey and Greenstein, *Astrophys. J.* **93**, 70, 1941). The result of this study is that interstellar particles have an albedo close to unity and an isotropic phase function over the observed wavelength range, properties which among the various plausible particle models are most likely manifested in Platt particles. The observations safely rule out particles consisting of dirty ice or pure graphite, while composite particles of ice-coated graphite are made highly unlikely.

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Brightness of Possible Cloud Surrounding the OGO-III Satellite. C. L. WOLFF, *Goddard Space Flight Center*.—The fact that orbiting astronauts have great difficulty seeing stars in the daytime has been discussed in the literature (Ney, E. P., and Huch, W. F., *Science* **153**, 297, 1966; Roach, Dunkelman, Gill, and Mercer, *NASA Publ.* SP-121,

Gemini Mid-Program Conference, 1966, p. 315) and has led to speculation about a possible cloud of material surrounding the spacecraft and scattering sunlight. Experience with a well-shielded photometer on the OGO-III satellite cannot rule out the possibility of there being a similar problem of daytime background light near large unmanned satellites; however, if there is, the brightness is 30 times less than the darkest daytime sky yet reported by an astronaut. A measured upper limit of 1000 visual tenth magnitude stars per square degree can be set upon the brightness, in full sunlight, of any cloud of debris that might surround OGO-III.

Any such high background of scattered sunlight will be of concern to some astronomers. G. Newkirk (*Planetary Space Sci.*, to be published) has studied the problem of a cloud about the Gemini spacecraft and this is compared, here, with what might be expected for an unmanned satellite.

General Relativity and Long-Period Comets. JAMES P. WRIGHT (introduced by Henri E. Milter), *Smithsonian Astrophysical Observatory*.—The question of the interpretation of observations of long-period comets within the framework of general relativity is discussed. The period obtained by Newtonian mechanics differs from the general relativistic case. One must reduce the observations independently to obtain consistent results.

Model Sunspots. HONG SIK YUN, *Indiana University*.—A revised version of Deinzer's (*Astrophys. J.* **141**, 548, 1965) theoretical sunspot model is presented. It is shown that a change in the boundary condition at the surface gives a model which agrees better with observations. The run of physical variables with depth for model spots with different effective temperatures is presented.

Fluctuating Polarization in Long-Period Variable Stars. R. R. ZAPPALA, *Yerkes Observatory*.—A set of 14 high-galactic-latitude semiregular and Mira variables has been observed polarimetrically. Well-defined variations in the amount and/or direction of polarization are found in seven of the stars while an additional four have polarizations large enough to make an intrinsic origin a likely possibility. No simple correlation between light and polarization curves is revealed. The irregularly variable supergiant μ Cep has also been observed to undergo substantial polarization changes.