The derived slope lies about midway between the value published for the SMC by Arp and that published for the LMC by Woolley *et al.*, but ours agrees almost exactly with the relation, published by Gascoigne for both Clouds, based on purely photoelectric measures. We believe that sampling problems for the longest-period Cepheids are a serious problem. Also in our study are an R Coronae Borealis variable, two W Virginis variables of changing period, two long-period variables, and two eclipsing binaries.

A Far-Infrared Sky Survey. W. F. HOFFMANN, N. J. WOOLF, C. L. FREDERICK, *Goddard Institute for Space Studies*, AND F. J. LOW, *University of Arizona*.—A series of far-infrared sky surveys is being undertaken to search for thermal radiation from interstellar grains and for other sources of far-infrared radiation. Observations have been made with a balloon-borne liquid-helium-cooled germanium bolometer and associated telescope and spectral filters. In two initial flights the response to a blackbody source was mainly between 300–360 μ . Approximately half of the celestial sphere was surveyed including most of the northern Milky Way. The angular resolution was 2°. The thermal radiation of the moon was detected but no other source was observed. The upper limit on the flux from other sources was $2 \times 10^{-23} \text{ W cm}^{-2} \text{ Hz}^{-1}$ corresponding to an antenna temperature of 0.6°K in the Rayleigh Jeans approximation, or 10°K for a blackbody.

These initial negative results suggest that either the interstellar grains have no good mechanisms for radiating at these long wavelengths, or that their albedo in the visible portion of the spectrum is very high. Further observations will be made at increased sensitivity and at shorter wavelengths to attempt to differentiate between these possibilities.

A Photometric Comparison of SW Andromedae, SU Draconis, and RR Lyrae. K. R. HONEY AND J. S. NEFF, *University of Iowa*.—Methods for deriving T_e , $\log g$, and an index of the metallic line blocking for RR Lyrae stars are described. Preliminary values at minimum light of these quantities are given below.

Star	Period	ΔS	Method 1 $T_e, \log g$	Method 2 $T_e, \log g$	ΔB	Other investigators $T_e, \log g$
SW And	0.442	0	5700, 2.4	5800, 1.9	0.7	
SU Dra	0.567	10	5900, 2.4	5800, 1.8	0.0	6000, 1.5(2.0)
RR Lyr	0.660	6	5800, 2.4	5900, 1.8	0.4	6000, 2.8(3.2)

ΔB is the metallic line blocking vector minus that of SU Dra. The values in the last column are from

J. B. Oke and S. J. Bonsack (*Astrophys. J.* **132**, 417, 1960) and J. B. Oke, L. P. Giver, and L. Searle (*Astrophys. J.* **136**, 393, 1962). The values in parentheses are revised values (Oke, J. B., private communication).

Infrared Excess and Dust Distribution around Stars. SU-SHU HUANG, *Northwestern University*.—While Poveda (*Bol. Obs. Tonantzintla Tacubaya* **4** (26), 15, 1965) and the present author (*Publ. Astron. Soc. Pacific* **77**, 42, 1965) have discussed the formation of planetary systems around stars in their T Tauri stage, it was the discovery of the infrared excess in these stars by Mendoza (*Astrophys. J.* **143**, 1010, 1966) that has renewed interest in this problem and led Low and Smith (*Nature* **212**, 675, 1966) to a similar suggestion.

Models of dust distribution have been built by Stein (*Astrophys. J.* **145**, 101, 1966) and Low and Smith in order to account for observed infrared radiation. Both assume an optically thin dust distribution with a spherical symmetry with respect to the star. Theoretically we show that if this same assumption is made, an integral equation can be derived that relates the infrared spectrum with the variation of dust density in space. Moment relations can be obtained from the equation.

The dust particles around stars could have already collapsed into a disk, following transfer of angular momentum from the star to the surrounding medium (Huang, *Astrophys. J.* **141**, 985, 1965). If so, we may conclude that a great part of the energy dissipated by the star at the T Tauri stage might be in the form of corpuscular radiation. Because of geometry the rotating disk around a central star does not receive a large portion of stellar electromagnetic energy. It is difficult to account for the amount of infrared energy that is observed. Only high-energy corpuscles that do not necessarily follow a straight course can feed the required energy to the disk. Such a suggestion for the energy source is consistent with the spallation process for the production of light elements in the solar nebula, (Fowler, *et al.*, *Geophys. J. Roy. Astron. Soc.* **6**, 148, 1962) and the flare activity of the pre-main-sequence stars (Schatzman, *Ann. Astrophys.* **25**, 18, 1952; Poveda, *Nature* **202**, 1319, 1964).

New Measurements of Absolute Fe I and Cr I gf Values in the Near-Ultraviolet and Their Astrophysical Implications. MARTIN HUBER AND FRANK TOBEY (present address: McDonnell Douglas Company) *Harvard College Observatory*.—Measurements of oscillator strengths obtained by the absorption technique from shock-heated gas are described. The influence of line emission and line broadening on the measurements is discussed.