Color-Magnitude Diagram of the Strong-Line Globular Cluster NGC 6712. LEWIS SMITH AND ALLAN SANDAGE, *Mount Wilson and Palomar Observatories*.—NGC 6712 is situated in the center of the Scutum Cloud ($l=353^\circ$, $b=-6^\circ$). It has been classified by Morgan as a moderately strong metallic line cluster of class V. In this classification, NGC 6712 lies between the strong line nucleus clusters like NGC 6356 of class VI and the very weak-line clusters like M15 and M92 of class I. This investigation shows that the C-M diagram is also intermediate in its several characteristics.

Photographic plates and a photoelectric sequence ranging from $V=12.5$ to $V=17.5$, $B=13.0$ to $B=18.5$ were obtained with the 200-inch telescope. The C-M diagram shows a well-defined giant branch, a long horizontal branch starting from $B-V=1.35$, $V=16.15$ and going to $B-V=0.35$, $V=16.5$ which contains the variable star gap whose edges are at $B-V=0.60$ and $B-V=0.88$, and the beginning of the subgiant sequence. We have terminated the photometry at $V=17$ to avoid the extreme crowding problem in this difficult field.

The reddening, determined from the position of the variable star gap is $E(B-V)=0.44$ with the normal assumptions. A lower limit of $E(B-V)=0.27$ was found by UBV photometry of field stars closer than NGC 6712. If $M_v=+1.0$ for the RR Lyrae stars, then the apparent modulus is $m-M=15.15$ and the true modulus is 13.8.

The C-M diagram shows that the majority of the horizontal branch stars lie redward of the variable star gap although there are a few stars on the blue side. This agrees with previous results which suggested that the very strong metallic line clusters (NGC 6356, 47 Tuc) have their horizontal branch stars entirely on the red side of the gap while stars in very weak line clusters (M15, M92) are almost entirely on the blue side. Furthermore, the magnitude difference between the horizontal branch and the giant branch, read at $(B-V)=1.4$, is $\Delta V=2.0$ instead of 3.0 as in the low metal-abundance halo clusters. Therefore, the present data strengthens the conclusion that the M_v of the brightest stars in globular clusters depends on the chemical composition (Sandage, A., and Wallerstein, G., *Astrophys. J.* 131, 598, 1960).

Micrometeorite Collection from a Recoverable Sounding Rocket. II. R. K. SOBERMAN, *Geophysics Research Directorate, Air Force Cambridge Research Laboratory and Northeastern University*, AND C. L. HEMENWAY, *Dudley Observatory and Union College*.—Preliminary results of this experiment are: (1) More than 90% of the particles collected were submicron in size. (2) The particles collected were

falling at low velocity. (3) An unexpected large number of particles were collected.

The micrometeorite flux was determined using "effective" exposure times by assuming that the particles were falling at terminal velocities. The integrated particle flux as a function of size is

Particles/m ² /sec	Particle diameter in microns larger than
300	3
1500	1
5700	0.3
13 700	0.1

These results are consistent with one or both of the following hypotheses: (1) The breakup of larger low density "fluffy" particles. (2) The existence of a dust layer or geocentric distribution of micrometeorite particles about the earth.

A Possible Mechanism for Jovian Decameter Bursts. S. E. STROM AND K. M. STROM, *Smithsonian Astrophysical Observatory*.—Hamiltonian ray tracing analysis of unusual terrestrial propagation conditions indicates that the earth's ionosphere can act as a spherical lens, focusing discrete cosmic radio sources. Such a focusing phenomenon is discussed as a possible explanation of the Jovian decameter radio storms. Jupiter is assumed to occult a radio source, small with respect to its angular diameter and to focus the energy from this source at a point near the earth's orbit. Preliminary ray-tracing in a model Jovian ionosphere has indicated a power gain for this mechanism of about 1000. We suggest that the observed periodicity of the decameter source with rotation period can be explained in terms of the focusing phenomenon by postulating a dipole magnetic field inclined with respect to the rotation axis. This magnetic field model can also explain the observed frequency drifting of individual storms.

An interesting tendency for the storm lengths to increase as Jupiter's apparent speed with respect to the background decreases is also noted. Finally, we consider the probability of occurrence of the storms as a function of earth—Jupiter distance in terms of possible correlation of this distance with frequency of observation.

Observations from a Solar Probe. B. E. THOMPSON AND H. O. EASTMAN, *G/D Astronautics, San Diego, California* (introduced by W. Rense).—The investigation of launch vehicles which are in the planning stages at the National Aeronautics and Space Administration using nuclear upper stages has indicated that significant payloads can be delivered to the proximity of the sun. This future payload capability will allow for extended observation and statistical analysis of important solar physical phenomena. In ad-