luminosity is mainly contributed by faint stars on the main sequence, this relation may state a simple fact that a more massive system contains more such faint stars than a less massive one. If the luminosity is mainly contributed by the red giants and stars on the horizontal branch, there are two possibilities to account for the relation: (1) All these systems have reached the present dust-poor stage at about the same time, and their normalized distribution functions of stellar masses (at least in the relevant range) are identical. (2) Each dust-poor system may evolve with a nearly constant luminosity which could result from a chance combination of two factors: the rate of evolution of stars after the main sequence stage and the distribution law of stellar masses.

Polarization of the Na D_2 Line and Magnetic Fields in the Comet Ikeya-Seki (1965f). CHARLES L. HYDER, *Sacramento Peak Observatory*.—The linear polarization in optically thin cometary Na D_1 and D_2 lines was measured in three regions of the comet Ikeya-Seki on 20, 21 October 1965. The polarization observed for the D_1 line (which cannot be polarized in the comet) was used to calibrate the Sacramento Peak coronagraph-universal spectrograph system, and the D_2 line polarization was corrected accordingly. The resulting planes of polarization in the D_2 line were always perpendicular to the cometary velocity vector rather than perpendicular to the line joining the comet and the sun (the normal direction). The degrees of polarization in the three regions were 4.5%, 5.5%, and 7%, and the angles of deviation from the normal were 30°, 33°, and 19°, respectively.

The observed polarizations are uniquely explained by cometary magnetic fields parallel to the cometary velocity vectors. I believe that the cometary magnetic fields are parallel to the Type I tail of the comet (not observed visually or photographically for this comet).

Upper limits of 175 and 56 km/sec were found for the solar wind speeds at the comet for the two times of observation. These speeds are theoretically compatible with values somewhat less than the 260 km/sec observed at 1 a.u. on a quiet solar day. The theoretical solar wind values for the cometary distances are given by Parker for an isothermal corona less than 0.5×10^6 °K [Parker, E. N., *Interplanetary Dynamical Processes* (Interscience Publishers, Inc., New York, 1963), p. 75].

These results clearly indicate the need for more intensive and extensive studies of cometary emission line polarization.

A Lunar Transient Phenomena Detection Program. J. A. HYNEK AND J. R. DUNLAP, *Dearborn*

Observatory.—A program designed to detect and photographically record transient color or albedo changes which may take place on the lunar surface is in progress at the Corralitos Observatory near Las Cruces, New Mexico, operated by Northwestern University under NASA sponsorship.

The image orthicon camera, in a closed circuit television chain, is placed at the Cassegrain focus of a 24-in. telescope. Interference filters, with sharp wavelength cutoff characteristics, are continuously and automatically alternated in the optical path. The resulting "blink" images in two or more regions of the visible spectrum are viewed on a large TV monitor which displays a 6×6 minute of arc lunar region. Each scan line corresponds to 0.5 arc. A separate telescope and television chain are employed to simultaneously monitor the moon in the near infrared from 0.7 to 1.1 μ .

Since initiation of the program, in October 1965, efforts of the Corralitos staff to detect any lunar surface changes have been negative. Suspected lunar changes, reported mainly through continuous monitoring of the short-wave radio "astro-net" have not been confirmed. The planet Jupiter, used frequently as a test and calibration source, shows a very pronounced blinking of the great red spot and more subtle but easily detectable changes in the equatorial and other regions of the planet. Star pairs, also used as test sources, display a "blink" image proportional to their spectral classification difference.

Initial Results of Orbit Computations in a Mass Model of the Galactic System. KIMMO A. INNANEN, *University of Western Ontario*.—Several orbits of high-velocity stars and globular clusters integrated in the field of a new mass model of the galactic system (Innanen, to be published) are presented. Tentative conclusions of the investigation so far are: (a) Although a large amount of computer time is required, orbits should be integrated directly from the theoretical equations for the force and potential of the model, rather than from empirical formulas. (b) Nearly all of the calculated orbits are periodic or nearly periodic in $(\bar{\omega}, z)$.

Astrometric Investigation of the $\Sigma 2398$ System. CARL W. KAMPER, *Allegheny Observatory*.—In an investigation based primarily on McCormick plate material, H. Eichhorn and H. L. Alden (*Astron. J.* **65**, 148, 1960) derived a mass ratio for this nearby long-period binary by the power-series method and suggested perturbations on the order of $4\frac{1}{2}$ and 9 yr. To check the reality of the latter, all published photographic relative positions were compared to the available orbits, and the 2550-yr orbit of J. Hopmann