the photometric standard for each field, and probably represents the best standard available.

Results from the first season of this program will be presented. These include evidence that some of the main sequence stars in the Pleiades and Hyades appear to be variable at a low, but statistically significant, level.

Photoelectric observations of secondary eclipses of several RS CVn systems were obtained to search for light curve fluctuations due to starspots. No significant fluctuations were observed. To model starspot observability spots were added to the Wilson-Devinney light curve synthesis program. A wide range of (dark) spot temperatures, sizes and distributions was explored. Solutions that fit the overall light curve for RS CVn did not show irregularities during secondary eclipse of more than 0.0001 magnitudes. These irregularities were also found to be insensitive to various combinations of spot sizes and temperatures. These results suggest that any observed fluctuations must be due to either hot (bright) spots or flare activity.

21.05 The Structure of the Corona of AR Lacertae. F. WALTER, JILA, U. of Colo. & NBS; D.M. GIBSON, NHMFP and G.S. BADDY, U. of Calif., Berkeley. We report preliminary results from simultaneous X-ray, ultraviolet, optical, and radio observations covering one orbit of the eclipsing RS CVn system AR Lacertae. The X-ray and UV surface fluxes from the two components are similar. We observe a 30X X-ray eclipse at primary minimum and a 10X eclipse at secondary minimum. The scale height of the G star corona is small, and the corona of the K subgiant may be limb brightened and relatively stable. We will discuss these data, and constraints on the morphology of the corona of AR Lacertae.

21.06 Near Infrared Fluxes in RS CVn Type Binary Stars, S.A. NAPITILAK, Claremont Colleges, California
Spectrophotometric scans covering the region from 6400 Å to 8800 Å were obtained for thirteen binary systems which display RS CVn type peculiarities. Most of the systems were sampled at two different phases. Identical scans were also obtained for a number of normal standards, covering the entire range of spectral types represented by the program systems. Using published spectral types and relative brightness data, composite fluxes were constructed to represent the observed fluxes for the binary stars. A comparison of the expected fluxes with those observed should reveal any infrared excess or deficiency.

Several of the systems studied have been reported as having infrared excess in recent studies using R I J band photometry. Some of these systems failed to show any significant excess in this study. We can infer from this that the excess is only at longer wavelengths. The implications of this conclusion will be discussed.

Finally, several of the systems were observed at a phase when the photometric "wave" was visible. If the starspot model is correct, we would expect to see an influence on the observed flux. These systems will be discussed individually.

21.07 Starspot Development and Color Variation on VW Cephei. A. P. LINNELL, Mich. State Univ. High speed UBVRI photometry of VW Cephei in August 1980 showed appreciable change in max. II in a 5-day interval. Max. I was unaffected. A reasonable interpretation is development of a starspot region on the advancing hemisphere of the more massive star. The V-I color was slightly bluer at max. I, consistent with a higher source temperature at that quadrature phase. The V-I primary minimum color consistently was redder than the corresponding secondary minimum color. This result indicates a cooler source temperature when the less massive star is eclipsed in the W-subclass W UMa system. Times of minima are wavelength-dependent. They are consistent with the rule that the shortest wavelength minimum is most remote in time from the higher and hotter of the two maxima.

21.08 On the Turn-ons of Hercules X-1 and the Periodicities in the Radial Velocity Variations of SS433. A.M. LEVINE and J.G. JERNTGAN, M.I.T. -- The orbital phase dependence of the turn-on times of Hercules X-1 and the ~6 day periodicities in the residuals of the radial velocities of the uv lines in SS433 (Newton and Collins A.J. 86, 1250, 1981) are both seen to originate in the same effect, a wobble of the precessing accretion disk. The wobble of the accretion disk is a dynamical consequence of the time variation of the torque due to the companion star on a disk which is tilted with respect to the binary plane. The results of model fitting confirm the existence of precessing tilted accretion disks in both systems and in SS433, confirm the orbital period and phase measured by Crampton, Cowley, and Hutchings (Ap.J. 235, L131, 1880).

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21.09 Radiative Acceleration of Astrophysical Jets: Line-Locking in SS433. P. R. SNAPFIRO, UT, Austin, M. MILGROM, Weizmann Inst., Rehovot, N. J. REES, IOA, Cambridge. Observations of SS433 are consistent with the view that the Doppler-shifted line emission originates in a pair of oppositely-directed, precessing jets in which a gas outflow is maintained at the remarkably time- and space-invariant speed (in the frame of the jet) of 0.26c. A radiative acceleration mechanism is described for the jets and a detailed, numerical, relativistic flow calculation presented which explains