the KPMO 4m telescope with echelle spectrograph operating in a single-trail mode. The data have a temporal resolution of 3 minutes and spectral resolution of 0.24Å. The largest observed flare had a U band peak amplitude of 1.5 mag. Hα and Hβ line profiles did not broaden during any of the observed flares although the line center intensity increased by over a factor of two during some flares. The emission line response to flares is complex but in general, after the initial increase, the central intensity decreases but remains at enhanced levels for hours following U band flares. Hs flare luminosity and total energy are comparable to corresponding properties of solar flares. Recent observations of a large flare (5.0 mag) on UV Ceti reveal only slight line broadening in Hs and Hβ. We conclude that line broadening is not a general feature of stellar flares.

06.03.06 Line Profiles of U Geminorum During Outburst. V. Sobel and R.K. Ulrich, UCLA. - Spectra with one minute time resolution were obtained with the Image Dissector Scanner attached to the 3m Shane Telescope of Lick Observatory on JD 2449171. These observations cover 75 percent of an orbit including the hump and the eclipse. There is a phase dependent asymmetry in the absorption line profiles that indicates the emission source of the S-wave emission seen during quiescence is still present during outburst. This work was supported in part by NSF Grant AST78-20236.

06.04.06 32-Channel Spectrophotometry of Stellar Flares. S. Mochaneci and H. Zirin, Hale Obs. - We have observed flares in YZ Canis Minoris and UV Ceti using the Oke Multi-channel spectrophotometer on the 5 meter telescope. Net flare spectral energy distributions in the range 3200-7000 Ångströms are fairly flat in £\_c, with the Balmer lines and continuum raised in emission. For the flares in UV Ceti and for the first and last stages of one large flare observed in YZ CMi, a combination of black body and optically-thin recombination continuum energy distributions adequately fits the data. During the maximum of the YZ CMi flare we observed a strong underlying continuum, fairly flat longward of 4200 Å and declining roughly as (1/£)\^2 towards the ultraviolet. This is suggestive of attenuation by Rayleigh scattering; it is not due to terrestrial extinction. All the UV Ceti flares we observed were fast, with rise times < 10 seconds and 1/2 continuum decay times ~ 20 seconds. The large YZ CMi flare lasted many minutes. In all cases the Balmer emission and the underlying continuum rose simultaneously but the Balmer emission decayed much more slowly than the underlying continuum. Black body temperatures peaked at flare maximum and were up to 8500°K. We shall discuss models and make comparisons with the Sun.

06.05.06 Infrared Photometry of RS CVn Stars. G. Berriman and R. Werner, Hale Observatory; and W. De Campli and S. Hatchett, Caltech. - Infrared photometry of seven RS CVn stars in the wavelength range 1 to 10 μm at a number of orbital phases, show no evidence for excess emission characteristic of that from a hot corona or from cool circumstellar dust. The 10 μm observations of UX Ari, HR 1099, HD 118216, AR Lac, Z Her and RS CVn show no excess due to free-free emission. This is not surprising in view of the X-ray value for the volume emission measure of UX Ari of only ~ 4 x 10\^15 cm\^3. These measurements also establish an upper limit to the mass of circumstellar dust of ~ 5 x 10\^15 M\_\odot.

The infrared spectral flux distributions of MM Her and AR Lac throughout primary and secondary eclipses, and RS Can and Z Her out of eclipse, resemble that of a K1 IV star, except at 1.6 μm, where the effects of the minimum in the H\^\_ contionous opacity are absent. The non-eclipsing systems UX Ari, HR 1099 and HD 118216 appear normal at 1.6 μm, but exhibit CO absorption at 5 μm. This behavior is not understood.

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06.06.05 Quiescent Chromosphere Models for the RS CVn Systems HR 1099 and UX Ari, and Estimates of Transition Region and Coronal Pressures. J. L. Links*** and Y. Simon, JILA, U. of Colo. and NBS. - In August 1978 we obtained IUE spectra of HR 1099 and UX Ari at three phases while both systems were quiet. These spectra cover the wavelength region 1175-2000 Å in low resolution and 2000-3200 Å in high resolution. Absolute fluxes for both the chromospheric and transition lines do not depend appreciably on phase, except for the N V λ1239, Si III λ1892, and C III λ1909 lines. Assuming that the K stars in both systems are the major contributors to the observed flux (as implied by the Mg II lines), surface fluxes are 25-200 times those of the quiet Sun. Chromospheric models constructed to match

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