posing prescribed temperature rises on published model photospheres in the region of the HR diagram which is occupied by RS CVn active secondaries (T=4000-6000 K, log g=2-4). We use a hydrogen atom containing 5 levels plus continuum to predict emergent flux profiles of Hα, Hδ, and Hγ (cf. Cram and Mullan, Ap. J. 234, 579, 1979). The Hα line in the RS CVn system λAnd has been observed at several epochs by Bopp and Smith (prepublication results). The observed profiles are much too wide to be fitted by any of our static model chromospheres. Rotational broadening cannot be important in this pole-on system. We have applied macroturbulence distribution observed by the isotropic Gaussian distribution exp -(v/v0)2. This fits the observed profiles well if v0 = 20-40 km/sec. We propose that these large macroturbulent velocities can be attributed to non-stationary magnetic structures in the atmosphere, and that these magnetic structures are also responsible for the vigorous activity which is characteristic of RS CVn secondaries. In our view, the atmospheres of RS CVn secondaries are in a state of constant magnetic upheaval, perhaps because closed magnetic loops cannot find static equilibrium when they emerge from beneath the photosphere into the corona.

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05.02 The Corona and Chromosphere of Proxima Centauri During Flare and Quiescent Times. B.M. RAISCH,* L. R. Borkmann, J.-L. Linsky,* F. J. Stencel, JILA, Univ. of Colo. & NBS, and O. B. Sleet, CTIO. X-ray measurements and ultraviolet spectroscopy of 175-3200 A of the dm5e flare star Proxima were made with the Imaging Proportional Counter on Einstein (HEAO-2) and the UV Spectrograph on IUE have detected quiescent coronal emission at a temperature of 4(6)K and faint chromospheric and transition region emission lines (Mg II, Fe II, C IV, Si IV, N V), the first definitive observation of coronas on M dwarfs (Ap. J., 269, L33). A bright, time resolved soft X-ray flare was also observed at that time (6 and 7 March 1979) reaching a maximum temperature of 17(46)K and a peak luminosity of 7.4(27) ergs/s, comparable to a large solar flare (Ap. J., 262, 1990). On 20 August 1980 with the Imaging Proportional Counter on Einstein, and ground based observing program. Preliminary Investigation of the IUE data indicate another major flare occurred with considerable enhancement of the ultraviolet emission line spectrum. For example, the C I 1657 A line brightened by a factor of 2 and the C IV 1549 A line by a factor of 3. These enhancements would be considerably larger if the flare duration was less than the 60 minute IUE observation. We will present these new observations in conjunction with the previous measurements and recent SMM data on solar flares.

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05.04 Photoelectric Scans of Field Horizontal-Branch Stars. A. C. Davis Phillip, Union College and Dudley Observatory and D. S. Hayes, KPNO - Over the past two and one half years a group of stars classified in the literature as field horizontal-branch stars has been scanned with the Harvard scanner at CTIO and KPNO. The stars HR 718, 3454, 4468, 5111 and 9087 were used as standard stars and have been measured an average of over 35 times each. Typical rms errors in a 40 Angstrom slot at 3400 Angstroms are ± 0.02 mag. A catalogue of the mean energy distributions for each star will be displayed at the poster session.

05.05 IUE Observations of Stellar lines in OB Stars, L. W. Knap, JPL, C. J. Weedman, Bentley Coll., and L.A. York, Intermetrics Inc.

High-resolution spectra have been obtained on the short-