posing prescribed temperature rises on published model photospheres in the region of the HR diagram which is occupied by RS CVn active secondaries (T_A = 6000-6000 K, log g = 2-4). We use a hydrogen atom containing 5 levels plus continuum to predict emergent flux profiles of Hα, Hβ, and Hγ (cf. Cram and Mullan, Ap. J. 234, 579, 1979). The Hα line in the RS CVn system λ And 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 macroturbulent velocities measured by the isotropic Gaussian distribution exp -(v/σ)^2. This fits the observed profiles well if v_σ = 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.

*Supported by NASA Grant NAGW-5.

05.02 The Corona and Chromosphere of Proxima Centauri During Flare and Quiescent Times. B. M. RAICHUR,* Lockheed Palo Alto Res. Lab., F. L. BORNMANN, J. L. LINSKY,* JILA, Univ. of Colo., & NASA, and O. B. SLEE, CSIRO. X-ray measurements and ultraviolet spectra (175-3200 Å) of the dMe flare star Proxima have been obtained with the Imaging Proportional Counter on Einstein (HEAO-2) and the UV Spectrograph on IUE. IUE has detected quiescent coronal emission at a temperature of 4*(10^6) K and faint chromospheric and transition region emission lines (Mg II, Fe II, C IV, Si IV, N V), the first definitive observation of coronae on M dwarfs (Ap. J., 236, 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 1.7*(10^7) K and a peak luminosity of 7.4*(10^27) ergs/s, comparable to a large solar flare (Ap. J., 262, 199). On 20 August 1980 with the Imaging Proportional Counter on Einstein, and ground based observing program. Preliminary data from the IUE data indicate another major flare occurred with considerable enhancement of the ultraviolet emission line spectrum. For example, the C I 1657 Å line brightened by a factor of 2 and the C IV 1549 Å line by a factor of 3. These enhancements would be considerably larger if the flare duration were 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. This work is supported by NASA under contract NASP-33999 to the Lockheed Palo Alto Research Lab and grant NAGS-82 to the University of Colorado.

*Guest Observer, Einstein Observatory (HEAO-2) and the International Ultraviolet Explorer.
1Staff Member, Quantum Physics Division, NASA.

05.04 Photoelectric Scans of Field Horizontal-Branch Stars. A. G. DAVIS PHILLIP, Union College and Dudley Observatory and D. S. HAYES, KPHO - 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 KPHO. The stars HR 718, 3454, 4468, 5511 and 9087 were used as standard stars and have been measured an average of over 35 times each. Typical rms errors in a 40 Ångstrom slot at 3400 Ångstroms 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. KEMP, JPL; C. J. NEHEM, Bentley Coll.; and L. A. YORK, Intermetrics Inc. High-resolution spectra have been obtained on the short-