the solar disk as it would appear in coronal light. The intensity at each point on the map is summed to produce a daily value of coronal irradiance. The time variation of this quantity shows a decrease of 28%, followed by recovery, as a large coronal hole transits the disk from 21 March through 7 April 1984. The occurrence of a coincident geomagnetic storm implies that the associated high-speed solar-wind stream strikes the earth. Other solar data sets, specifically sunspot number and 10.7 cm radio flux, do not have unambiguous coronal hole signatures during this period. This technique suggests that coronal holes might be observed on stars, if a suitable method for isolating coronal radiation is used (e.g., radio or EUV).

26.07
An X-ray Survey of Solar-Type Stars
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We present the results of a statistically complete survey of the X-ray emission from dwarf stars in the color range $0.51 < B-V < 0.80$ as observed by the EINSTEIN Observatory. The color range of this volume limited sample corresponds to F7 to G9. We derive the maximum likelihood X-ray luminosity functions for single and binary stars. Bootstrapping techniques are used to determine the correlation of $L_x$ with stellar parameters such as $V$ sin$i$. These luminosity functions and correlations are compared with previously obtained results for the earlier F stars and K/M stars, using non-parametric two sample tests: the aim is to investigate the variation of stellar activity along the main sequence. Our results are used in conjunction with studies of the X-ray emission from similar stars in the Hyades and Pleiades associations to estimate the dependence of $L_x$ on stellar age and to contrast the age dependence of $L_x$ with that of rotation.

26.08
On the Behavior of Excess Chromospheric Hα Emission in Late-Type Stars and Its Correlation with Coronial X-ray Emission
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In an observing program to obtain quantitative chromospheric diagnostics of quiescent $\Delta$Me and $\Delta$M stars the authors have determined the excess $H\alpha$ equivalent widths, i.e. the excess above the normal non-chromospheric $\Delta m$ state, for a large sample of Vysotsky and the other late type stars. Using published and/or program measured (R-I) colors and R magnitudes we derived the chromospheric $H\alpha$ energy loss ($H\alpha$ luminosity) and examined its distribution with $R-I$. This distribution shows a clear upper envelope which falls of towards cooler stars. Such a decrease is consistent with the chromospheric MgII, CaII line results of Linsky et al., Ap. J. 260, 670 (1982). We find that, among the $\Delta$Me stars, BY Dra and AUMic appear to be "super-active", i.e. they fall significantly above the upper envelope of the $H\alpha$ activity distribution. The $H\alpha$ emission for the possible occurrence of a Vaughan-Preston "gap". The color dependence of the envelope will be presented and compared to that in the Hyades.

Finally, a linear ($H\alpha$-luminosity) - (X-ray-luminosity) correlation for a large number of stars with $(R-I)$ independent with $\Delta L(H\alpha)/L(XR) = 0.2$. We note that such a relation would corroborate the X-ray heating mechanism of Cram, Ap. J. 253, 760 (1982).

26.09
He I $\lambda$5876 as a Chromospheric Activity Indicator
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Equivalent width measurements of He I $\lambda$5876 have been made in 52 F, G, and K main-sequence stars. This feature is shown to be present in at least some main-sequence stars from spectral type F0 to K1. The maximum equivalent width observed is largest in the F stars ($\approx 60$ m$\AA$) and decreases somewhat in later types.

Helium I $\lambda$5876 equivalent width is shown to be correlated with the Ca II $S$ index, with the slope of the relation differing with spectral type consistent with the decreased sensitivity of $S$ to activity in hotter stars. The equivalent width of He I $\lambda$5876 is therefore a more sensitive index of chromospheric activity in F stars than the $S$ index. The feature also roughly correlated with $F_X$, the x-ray surface flux, and also appears to depend on rotational velocity in F stars.

The He I $\lambda$5876 line thus appears to be the most useful indicator of chromospheric activity in F stars that can be measured with ground-based telescopes.

26.10
Na D Lines in Late-Type Stars: Observational Results and Semiequilibrium Model Chromospheres
D. C. Boice (N M State U)

A study was made of high resolution Na D line profiles for 32 late-type stars. These stars included main sequence, giants, and supergiants of spectral types F5 to M4.5. Empirical line profile parameters were used to investigate the existence of a width-luminosity relationship for the Na D lines. A weak relationship was found for main-sequence stars. A strong correlation between line width and luminosity was discovered for main sequence stars; with late K stars being exceptional. Detailed line formation of the Na D lines was investigated using a non-LTE radiative transfer code with model chromospheres. The importance of the Na D lines as chromospheric diagnostics is discussed in the context of the results of this study.

26.11
The Filling Factor of Active Regions on non-\Delta m$ Stars
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The $\Delta m$ stars are observationally characterized by relatively intense levels of chromospheric and coronal emission. In particular, the optical spectra of these stars exhibit strong Balmer line emission while the less active non-$\Delta m$ stars show Balmer line absorption. A variety of empirical evidence suggests that the $\Delta m$ stars must also have surfaces that are covered almost completely by "active" plage-like regions. By comparison, the non-$\Delta m$ stars, or simply the ordinary $\Delta m$ stars which, as a class, are characterized by relatively weaker Ca II emission and chromospheric Na absorption, must have surfaces with few active regions. However, I briefly discuss why, in fact, the observations imply that the surfaces of the $\Delta m$ stars that exhibit Na absorption must also be characterized by an extensive surface coverage of magnetic-field or, "active" regions. In particular, the presence of only a weak Na absorption profile for an $\Delta m$ dwarf in radiative-convective equilibrium suggests that an observed, strong chromospheric absorption profile must be associated with a