

FLARE-LIKE ULTRAVIOLET SPECTRA OF ACTIVE REGIONS

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Summary. Some characteristic features of UV spectra which can be seen in flares (Brueckner, this Symposium, p. 135) can also be detected in active regions without the presence of typical other flare phenomena like X-ray enhancement. Another distinct difference between these 'flare-like' spectra and flare spectra is the absence of very high temperature ions like Fe XXI in the 'flare-like' spectra. They occur in small areas and can be detected as 'fluctuating H α bright points' in broad band H α . Simultaneously, a strong UV brightening can be seen. As reported by the Skylab crews, these brightenings occur more frequently and quasi-periodic prior to flares. Their spectra show the very broad transition zone lines and often strong line shifts toward the blue or red. Figure 1 shows a selection of typical spectra. One notices a very asymmetric L α profile in one case. Spectra prior to, during, and after a flare are reproduced in Figure 2. One recognizes that the transition zone instability started intermittently prior to the flare and could be seen during short time intervals long after the flare had ceased.

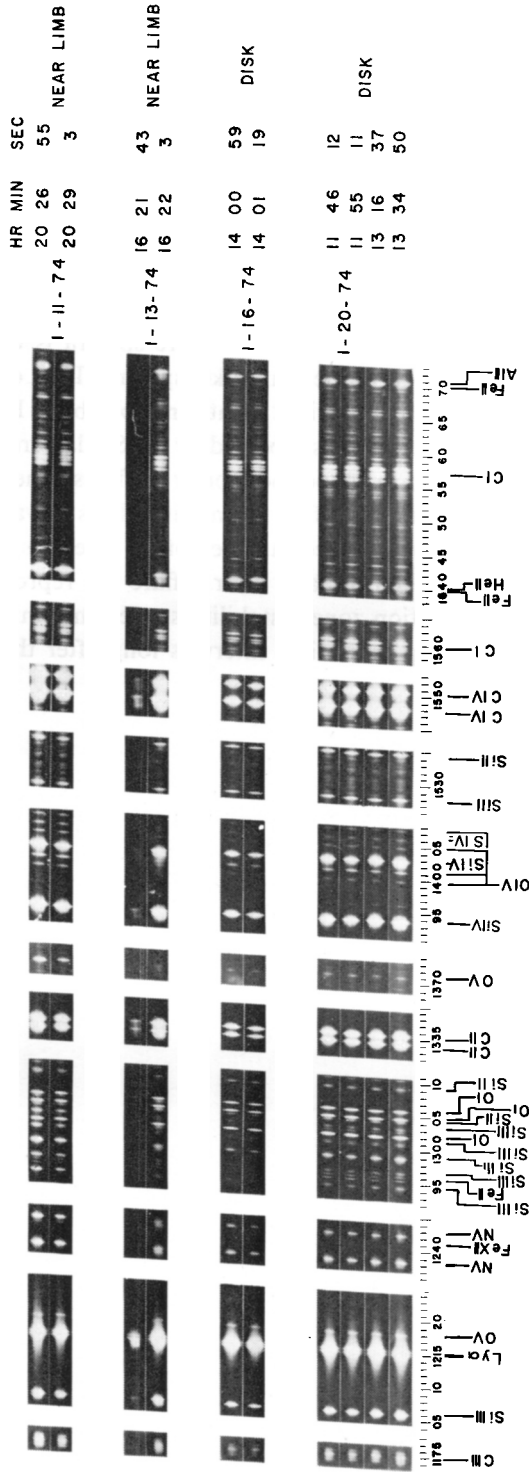


Fig. 1. Selection of UV spectra of fluctuating H α bright points.

FLARE-LIKE UV SPECTRA OF ACTIVE REGIONS

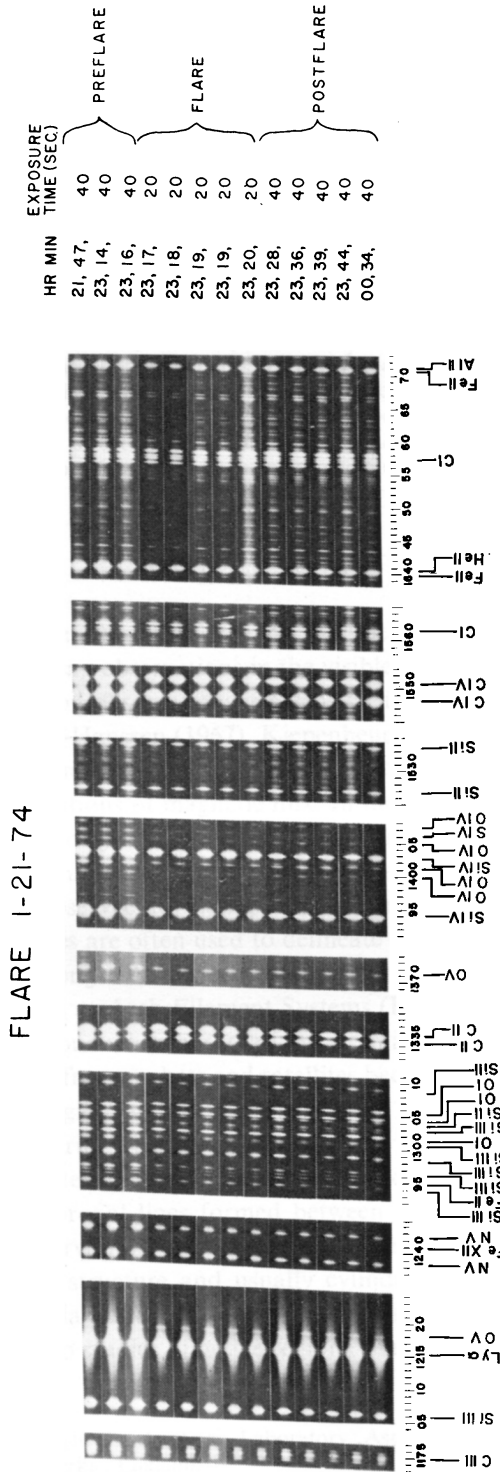


Fig. 2. Time sequence of spectra prior, during, and after the 1974, January 21st flare.