of the records suggest that the flare-associated events at 2800 Mc/sec may include two quite different types of phenomena. One is the sudden burst-type feature which occurs during the rise to maximum of the flare. The other is the more gradual rise and fall. The two can occur separately or in conjunction with each other. In the latter case, the gradual rise and fall is designated as a post-burst increase.

The energy excesses of the flare-associated disturbances vary by a factor as great as 50,000. On the average, the energy excess increases with flare importance. Closeness of the flare to the central meridian of the sun apparently favors the occurrence of a gradual rise and fall or post-burst increase that is of intrinsically great magnitude, or that is large in comparison to the associated burst. The purely burst-type phenomena do not seem to be influenced by position of the flare on the disk.

Examination of solar records for the times of all reported disturbances at 2800 Mc/sec from 1947 to 1952 provides strong evidence that there is an outstanding disturbance at 2800 Mc/sec only when a flare or subflare is in progress.

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Erb, D. S., J. P. Curtis and Wm. A. Rense.
Ultraviolet absorption in air from 630 Å to 1670 Å.

The atmospheric absorption coefficients of thirty-six emission lines of highly ionized oxygen, nitrogen, and silicon were studied photographically at pressures of .22, .12 and .017 mm of mercury. A one meter, grazing incidence, vacuum spectograph was employed to obtain the necessary dispersion in the far ultraviolet. A capillary discharge in air was used as source and Eastman 103-O, u.v. sensitized film as receiver. Mass absorption coefficients were found for each wave length and pressure. For a given wave length the most reliable determinations were constant to within forty per cent. There was no evidence of any systematic change in a coefficient with pressure. Results are in accord with those of other observers. The window between 1000 Å and 1300 Å was in evidence, as well as the region of strong absorption between 1300 Å and 1700 Å.

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Franklin, K. L. A spectrophotometric study of Capella.

The main problems in the spectrum of Capella, a spectroscopic binary, are: (1) strong G-type lines are apparently absent; (2) weak G lines are present; (3) strong F-type lines are present; (4) weak F lines are apparently absent; (5) F lines tend to dominate in the violet end of the spectrum, while G lines dominate in longer wave lengths.¹

Arguments employing black-body radiation indicate two components having either a large temperature difference with a large intensity ratio, or a small temperature difference with a small intensity ratio. Interferometer observations indicate a small intensity ratio at $\lambda 5500$,² but work by K. O. Wright favors the large ratio of 2.3:1 while maintaining a small spectral type difference.³

To obtain more evidence concerning this apparent contradiction, the spectra of comparison stars and that of Capella were scanned photoelectrically at Mount Wilson.⁴ Smooth energy curves derived from these scans are insufficient to determine the actual types present, but limits have been set favoring a small difference in spectral type, with a small intensity ratio.

This conclusion is substantiated by a comparison of the results of other observers. This comparison shows that the composite energy distribution of Capella is very similar to that of a normal early G-type giant.

Two alternatives are thus indicated: (1) the energy distribution of a normal, late F giant resembles that of a normal, early G giant; or (2) Capella F is abnormal by being too red for its spectral type. Several possible explanations of this behavior are offered.

Applying to high dispersion spectrograms of Capella a modified form of Petrie's method for determining magnitude differences in double-line binaries, two trends were noticed: (1) in wave lengths $\lambda 3640-4170$, the F spectrum becomes dominant toward the shorter wave lengths; (2) independent of wave length or element, weak lines indicate a brighter G star while strong lines indicate the reverse. These trends illustrate and confirm the previously noted phenomena.¹

Intensity tracings of the spectrum of Capella at three phases were compared with those of α CMi, α Per, and α Boo. With these, and the use of the unsmoothed photoelectric spectrum scans, the solution to four of the problems became