MEASUREMENT OF THE INCREASE IN ALTITUTE OF THE SOFT X-RAY EMISSION REGIONS OF SOLAR FLARES

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The upward motion of the hot thermal regions of several large (M type) solar flares have been determined from the soft X-ray spectral data recorded by the scanning spectrometer (SOLFLEX) on the P78-1 spacecraft. The change in position of the emission is measured with a spatial resolution of 2000 km and a temporal resolution of 58 sec. For the limb flares that are studied, the centroid of the Ca XIX emission region moves to a higher altitude with a speed of 20 to 40 km/sec for a period of 20 to 30 minutes following onset of the flare and reaches an altitude of 30,000 to 40,000 km. The speed of ascent decreases with time, and in several flares that are studied, there is an indication that the centroids of the Ca XIX emission oscillate in altitude with amplitudes of 5,000 to 10,000 km and with periods of 5 to 8 minutes.

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