

M10a 陽光 BCS による硫黄輝線を用いた太陽活動領域の観測

スターリング・アルフォンス

Using the Bragg crystal spectrometer (BCS) on board the *Yohkoh* satellite, we examine the spectral properties of a solar active region from 1996 March 22–24. Because the region, NOAA AR 7953, was the only one on the Sun over the three day period, it was possible to obtain quality spectra for that region alone despite the BCS being a full-Sun instrument. We analyzed about 150 S XV spectra with integration times ranging from about 15 to 3000 seconds. At least one sub-C class flare and one C-class flare were observed during the period. Lower-level transient brightenings occur nearly continuously in the region. We find average electron temperatures for the non-flaring active region ranging from 5.5 to 6.3 MK, and average non-thermal velocities ranging between 40 and 50 km s⁻¹ over the three days. It is, however, difficult to deconvolve the contribution of the source distribution to the non-thermal velocity estimate when flux from the region is low.