ANALYSIS OF THE SOLAR X-RAY SPECTRUM OF 20 AUGUST 1971

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ABSTRACT

The analysed spectrum covers the wavelength range 8-13 Å and was obtained during the descending part of a solar flare. Absolute intensities of the spectral lines and continuum have been determined. Next a thermal model of the emitting region has been calculated and compared with various models of coronal condensations. It has been verified that an exponential function provides a good approximation for the distribution of the emission measure with temperature.

OBSERVATIONS

Solar X-ray radiation was investigated from the geophysical rocket Vertikal 2 launched on 28 August 1971 at 0320 UT. The rocket reached the altitude of 463 km and the observations lasted for 542 sec. In the present investigation data received by the following instruments prepared by the Lebedev Physical Institute have been used:

/1/ two Bragg spectrometers with KAP crystals and GM counters recording the X-ray spectrum in the wavelength intervals 7-13 and 11-16 Å;

/2/ an X-ray photometer consisting of an aluminium filter and a GM counter and recording the radiation in the wavelength interval 8-11 Å.