

I. PHYSICS

Astrophysics (Solar Corona)

SPECTROPHOTOMETRY OF THE INNER CORONA

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THE experiment aimed at securing observations for the evaluation of the temperature and density structure of the inner corona, from the total intensities of the continuum and the emission lines.

Keywords: Spectrophotometry of Inner Corona.

DESCRIPTION

A twin Ebert-Fastie type spectrograph each with a 30cm spherical mirror of 55cm in focal length and 600 line grating was used to obtain the spectrum from 3400Å to 7500Å at a near dispersion of about 28Å/mm. A $f/10$ paraboloid of 25cm aperture fed by a two mirror coelostats imaged the corona on the slit plane. The two curved slits were located one on the east and the other on the west at $0.06R_0$ above limb and covered a position angle of about 120° .

SUMMARY OF PRELIMINARY RESULTS

The excellent spectrum obtained with 85 seconds exposure on III-F emulsion show addition to the Fe XIV (530Å), Ca XV (5694Å), Fe X (6374Å), Ni XV (6702Å) lines, the H line in emission. A short exposure lasting 20 seconds shows the spectrum of the prominences.

LOCATION

Hosur, Karnataka. Long. $75^\circ 09' 18''$ E Lat. $15^\circ 00' 12''$ N.