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I. PHYSICS

Astrophysics (Solar Chromosphere)

CHROMOSPHERIC FLASH SPECTRUM

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THE experiment was aimed towards observing the time sequenced chromospheric spectrum in the region near *H* and *K* lines of Ca II just before and just after totality to know physical characteristics at different heights in the chromosphere and the extension of chromospheric emission in lines of *H* and *K* corona.

Keywords : Chromospheric Flash Spectrum; *H* and *K* lines; Coelostat

EXPERIMENT

Equipment

f/15, 10 cm aperture objective fed by 25 cm coelostat was used to form 14mm image of the sun at the slit or slot of the spectrograph. A field lens (11.25cm diameter and 180cm focal length) and a collimating lens (15 cm diameter, *f*/20 system) illuminated a plane reflection grating blazed for first order at ~ 5000Å, two camera lenses, *f*/15 of 10cm aperture and *f*/8 of 11.25cm aperture provided dispersions of 11.3Å/mm at 3950Å and 17.8Å/mm at 5000Å respectively in two first orders. To record slitless flash spectra on a 35mm SO-115 film, a Robot recording camera (equipped with sequential timer) was used. For coronal slit spectrum 103aF plates were utilised.

SUMMARY OF PRELIMINARY RESULTS

We have successfully recorded flash spectrum sequences (having about 25 frames on each occurrence of flash). Four lines, *H*8 (with HeI line superposed over it), *H* and *K* lines of CaII and *H*7 show up as very intense lines. Four prominences reveal their presence in *H* and *K* lines of CaII just before second contact. It is interesting to note that *H* and *K* lines which appeared almost equally strong in a sequence just before totality showed considerably different intensities in the other sequence. In fact, *K* line appeared weaker than *H* line.

LOCATION

Palem. Long. —78° 15.0′, Lat. 16° 31.5′. Elevation 642m, 110 km Southwest of Hyderabad), Mahboobnagar, A.P.

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