

I. PHYSICS

Astrophysics (Ionosphere)

STUDY OF VARIATIONS IN THE ELECTRON DENSITY PROFILES AND THE ELECTROJET IRREGULARITIES CAUSED BY THE SOLAR ECLIPSE

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THE aim of the experiment was : (1) to study the variation in electron density in the D-region during the eclipse; and (2) to detect the perturbation, if any, in the ionospheric electrostatic fields due to the eclipse by detecting changes, if any, in the amplitude and spectrum of the electron density irregularities in the electrojet region.

Keywords : Electron Density; Electrojet.

EXPERIMENT

Equipment

The instrument used was a high frequency response Langmuir probe system which can determine the electron density profile and the electron density irregularities in a wide range of scale sizes.

RESULTS

Three experiments were conducted on Centaur rockets flown from Thumba, two on February 16, 1980 at 1454hr (Solar obscuration 40%) and at 1522 hr (Solar obscuration 70 per cent) respectively and the third control flight on February 17, 1980, at 1522hr. The experiments were successful and have yielded good data. Data are still under quantitative analysis.

REFERENCES

Satya Prakash and Subbaraya B. H. (1967) *Rev. scient. Instrum.*, 38, 1132.