

THE MANILA OBSERVATORY

Magnetic Research Project

First Interim Progress Report: October 5, 1960

General Description of the Project:

A research program of the Manila Observatory is in the area of study of the equatorial ionosphere. Of particular interest is the study of the phenomenon termed "spread-F", a pronounced diffuse effect appearing on ionograms produced with a vertical incidence ionosonde. This spread-F assumes a characteristic form and occurrence pattern in the near vicinity of the magnetic equator.

A second field of interest is an investigation of a peculiar evening enhancement of forward scatter radio propagation around fifty megacycles observed in the Far East (E. K. Smith & J. W. Finney; J. Geophys. Res. 65, 885 (1960)). Preliminary analysis of this phenomenon by the Page Communication Engineers, Inc. (Private communication) indicated that there is a positive correlation between the occurrence of this enhancement and certain magnetic phenomena.

an additional objective of the present research program is in connection with a solar flare patrol and radio observations of solar emissions during the times of intense solar activity. The longitude of the Manila Observatory makes this type of solar observation most desirable.

For all these studies, a determination of local variation in the geomagnetic field is of great utility.