

GEOMAGNETIC RESEARCH IN BRAZIL

by

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ABSTRACT

Space geophysics oriented geomagnetic research in Brazil is done at institutes, viz the Institute for Space Research (INPE/MCT - Instituto de Pesquisas Espaciais) at São José dos Campos and the National Observatory (O.N., CNPq/MCT) at Rio de Janeiro. The INPE is engaged in experimental research on the geomagnetic phenomena at low latitudes. It records continuously geomagnetic field variations in H, D and Z components at Eusébio (3.81°S , 38.75°W) and Alcântara (2.31°S , 44.4°W) in the region of Equatorial Electrojets (EEJ), also at Cachoeira Paulista (22.7°S , 454°W) and Comandante Ferraz (62°S , 58°W) in the region of (SAMA) South Atlantic Magnetic Anomaly. The Observatory at Rio runs two standard magnetic observatories, Vassouras and Tatuoca. In the recent years both institutes have started working in the field of electromagnetic induction in the Earth by conducting magnetotelluric (M.T.) field measurements. Some of the research work done at INPE on the Equatorial Electrojet current, precipitation of charged particles in the SAMA region and magnetotelluric measurements are reported here. The geomagnetic investigations planned for coming few years are described. Operation of an array of about 20 (twenty) three component fluxgate magnetometers in the area $\pm 5^{\circ}$ latitude around magnetic equator in the NE Brazil, during 1990-91, the year of internationally coordinated EEJ investigations, and geomagnetic micropulsation measurements at low latitude conjugate points and at the equator are two main areas of our activities in the coming few years. Both the projects are in progress with both national and international cooperation.