

Title: Lithospheric Magnetic Anomalies over the Indian Subcontinent and Adjoining Oceans from Swarm Satellite Constellation: Observation, Extraction & Processing of Satellite and observatory data.

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Abstract:

The Earth's magnetic field measured from different platforms like satellite, and observatory (ground) is the sum of fields of internal and external origins that operate on a wide range of spatial and temporal scales. It is a challenge to isolate the Lithospheric magnetic field, arising due to variations in the magnetization carried by crustal and some mantle rocks, from the total magnetic field, measured from different platforms. Currently, based on the data from number of satellite missions, several global models have been developed to represent the lithospheric magnetic fields either through comprehensive or serial approaches. In our work we are going to combine these two approaches and try to introduce a new methodology for isolating and generating lithospheric magnetic anomaly map of Indian sub-continent and adjoining areas from the magnetic field measurements made by SWARM satellite constellation. In our approach in addition to the updated version of available global models we will be utilizing data from magnetic observatories of IIG for removal of the main field (outer core). Data selection criteria and processing from SWARM satellite constellation, magnetic observatories, utilization of main field models etc will be discussed.