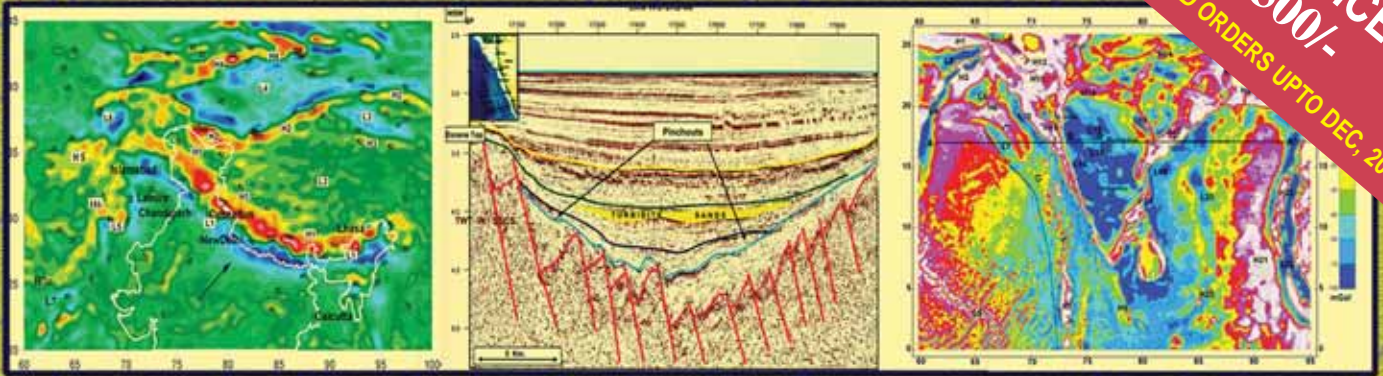


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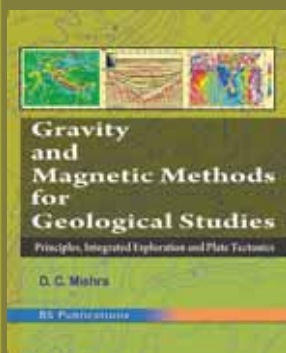
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# Gravity and Magnetic Methods for Geological Studies

Principles, Integrated Exploration and Plate Tectonics

by

*D. C. Mishra*



## Part I

### Methodology with Global Examples

(Continental, Marine and Airborne-Satellite Surveys)

## Part II

### Integrated Exploration of Indian Plate and Resources

(Geodynamics, Seismotectonics, Hydrocarbons, Minerals, Groundwater, Environment and Engineering Sites)

#### Main feature of books are:

- Geophysical data sets of the Indian Plate and adjoining countries and continents like Pakistan, Tibet (China), Nepal, Bangladesh, Myanmar, Sri Lanka, Madagascar and Antarctica and some global examples from Germany, USA, Russia, Africa etc.
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*Researchers, professionals in Geophysics, Geology, Economic Geology, Geological Engineering, Geography, Mineralogy and related disciplines.*

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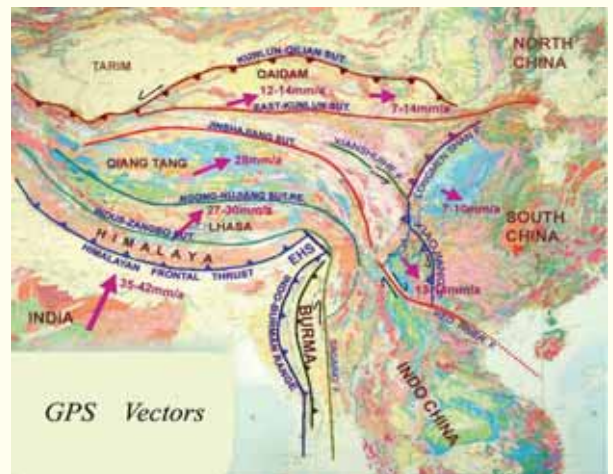
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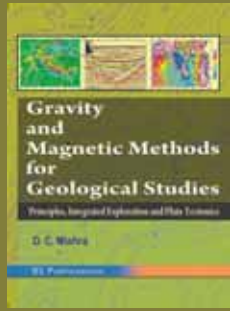
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# Gravity and Magnetic Methods for Geological Studies

## Principles, Integrated Exploration and Plate Tectonics

by

*D. C. Mishra*

**Dr. Dinesh Chandra Mishra** completed his M.Sc in 1963 from Banaras Hindu University (BHU) and Ph.D (Geophysics) in 1966 from BHU and Tata Institute of Fundamental Research (Mumbai). After teaching tenure to M.Sc (Geophysics) in BHU, he joined the National Geophysical Research Institute (NGRI) as a Scientist in 1968 where he continued till superannuation in 2003. During his tenure at NGRI he held various scientific and administrative positions including Director's Grade Scientist. He is currently an Emeritus Scientist at NGRI.



An accomplished and renowned scientist, Dr. Mishra has visited various countries for advanced research work and has had the privilege to attend and present his work at key conferences. During his long career of almost 50 years, he collaborated with various national and international scientists. He was also an active member of the international committee on integrated exploration programme on 'Geotransects' and Fellow of several geophysical and geological societies.

He participated and guided the airborne magnetic and ground gravity surveys of different parts of the country and was involved in preparation of country wide gravity maps for geodynamics and resource exploration integrating them with other geophysical/geological information including satellite magnetic and gravity data. A Principal Investigator and Coordinator for several integrated exploration programs in the country, Dr. Mishra has co-authored a book and published more than 150 scientific papers and about 25 technical reports on 'Integrated Exploration for Geodynamics and Resources'. He is presently actively involved in some major scientific projects from Ministry of Earth Sciences and Department of Science and Technology, Government of India.



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Both gravity and magnetic methods are frequently used in conjunction with other geophysical methods or direct geological studies for seldom do 1.3 Geological Mapping and Site Characterization 5 they provide the complete answer to a subsurface problem. The ambiguity in the interpretation of gravity and magnetic data prevent this. None-the- less, there are notable exceptions to this generality in which the methods have special capabilities; for example, in locating ferro-metallic materials with the magnetic method and mapping near-surface subsurface voids with the gravity method. The relatively

As the utility of gravity and magnetic methods for oil exploration expands, so does the need for more awareness on how these methods can be used to enhance geological interpretations. Geosoft Articles | Energy Geoscience | 1581 views. When Seismic is not enough.Â Incorporating gravity and magnetics into regional interpretation studies. TGS has conducted interpretation and play fairway studies across the frontier area offshore East Canada, following phased acquisition of 2D seismic surveys in Newfoundland and Labrador Sea in partn On-Demand Webinars | Energy Geoscience | 1860 views. Calibrated with geological knowledge, gravity and magnetic anomalies can yield an indirect but extremely useful picture of lateral changes in rock composition and structural patterns. Superb and readable guides to the basics of gravity and magnetic methods for non-specialists were created by Nettleton (1971) and Goodacre (org., 1986). More elaborate discussions of these and other geophysical techniques can be found in various texts, such as Telford et al. (1976). This latter book on my shelf is much beaten and dog-eared, having traveled to many field camps. A good collection volume on the uses