Indian Institute of Geomagnetism (IIG), Navi Mumbai

The Indian Institute of Geomagnetism (IIG) is an autonomous research institute under the Department of Science & Technology (DST) dedicated to geomagnetism, geophysics, space physics, atmospheric physics, and plasma physics.

It plays a vital role in studying Earth's magnetic field, space weather, satellite communication, and navigation.

Its origins date back to the Colaba Magnetic Observatory (1826), making IIG the successor to nearly 200 years of geomagnetic research in India.

Objectives

- Conduct research in geomagnetism, space weather, and Earth sciences.
- Maintain geomagnetic observatories and develop magnetic instruments.
- Collect and analyse geomagnetic data.
- Promote scientific training, education, and national & international collaborations.

Significance

- Supports space weather studies, satellite communication, and solar-terrestrial research.
- Contributes to earthquake studies, geophysics, and Earth's magnetic field research.
- Hosts the World Data Centre for Geomagnetism, South Asia's only international geomagnetic data centre.

Collaborations

Collaborates with Kyoto University (Japan), University of the Western Cape (South Africa), National Science Council (Taiwan), and other international scientific organisations.

Achievements

- Operates 12 geomagnetic observatories across India.
- Contributes to space weather prediction, magnetic field modelling, ionospheric studies, and Antarctic research.
- Developed a low-cost proton precession magnetometer (Indian Patent, 2016).

Future Vision

IIG is advancing space weather research, AI-driven geophysical analysis, next-generation magnetic instruments, expanded observatory networks, and global collaborations to strengthen Earth and space science research.



