

Metadata Details

Title

Studies on the Increase in Seismicity in the Antarctic Plate: Observations from BB Seismological Observatory (MAIT) at Maitri, Antarctica during 25th IAE.

Science Keywords

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| Category | Paleoclimate |
| Topic | Seismology |
| Expedition Year | 2005-2006 |
| ISO Topic | Seismology |

Summary

Abstract

The permanent Seismological Observatory was established in 1997 at Maitri in Central Dronning Maud Land, East Antarctica (70°45' south 114°3' east) primarily to monitor the seismicity in and around Antarctica, the space and time distribution of earthquake occurrences and obtain hypo central parameters, magnitudes of earthquakes, velocity inversion for underground structure and earthquake source mechanism. The observatory has been upgraded during the 25th Indian Silver Jubilee Scientific Expedition to Antarctica (December 2005 to February 2007). Uninterrupted good quality digital Broad Band Seismic data is continuously being acquired.

Purpose

The classic Triple junction in the Indian Ocean named as Rodrigues Triple junction (RTJ) where the three plates Somalia-Antarctica-IndoAustralia diffuse plate boundary meet makes an interesting study of sources of seismicity in the Indian Ocean and hence the Indian Plate Kinematics. The three mid-ocean ridge (MOR) systems that form the Triple junction are (i) South West Indian Ridge (SWIR), (ii) South East Indian Ridge (SEIR), and (iii) Central Indian Ridge (CIR) and its northwestern continuation Carlsberg Ridge (CR) and they strikingly illustrate the complexities of applying ideal rigid plate tectonics to ocean plates.

Data Center