

Metadata Details

Title

Studies on Seismotectonics and Geo dynamical Processes between Antarctica and Southern Indian Peninsula: Continuous GPS monitoring between India and Antarctica (2012 -2013)

Science Keywords

Category	Paleoclimate
Topic	Seismology
Expedition Year	2012-2013
ISO Topic	Seismology

Summary

Abstract

Global Positioning System (GPS) measurements at Maitri, Antarctica have been carried out since 1997 to study the seismotectonics and geodynamical processes of India and the plate motion between the Indian and Antarctica plates. The GPS velocity fields of Maitri and other IGS stations (Casey, Davis, Seychelles, COCO, Hartebeesthoek, Yaragadee, and Tidbinbilla) in different plates show consistency with the calculated plate motion. The estimated pole for the Antarctica plate is at 58.69°N, 128.29°W with rotation of 0.224°/Ma which gives a velocity of about 9 mm/year predominantly towards north at Maitri, Antarctica. The estimated velocity is consistent with this euler pole. Thus the velocities within uncertainties are in good agreement between geodetic and geologic model. Our estimated velocity vectors conform to those of SCAR GPS campaigns consistent with rigid plate rotation.

Purpose

Estimation of plate motion and crustal deformation processes of Antarctic plate

Data Center