

Accepted Manuscript

Title: Lateral Variation in Crustal and Mantle Structure in Bay of Bengal Based on Surface Wave Data

Authors: Amit Kumar, Sagarika Mukhopadhyay, Naresh Kumar, P.R. Baidya



PII: S0264-3707(17)30062-5
DOI: <https://doi.org/10.1016/j.jog.2017.11.006>
Reference: GEOD 1517

To appear in: *Journal of Geodynamics*

Received date: 26-3-2017
Revised date: 10-9-2017
Accepted date: 7-11-2017

Please cite this article as: Kumar, Amit, Mukhopadhyay, Sagarika, Kumar, Naresh, Baidya, P.R., Lateral Variation in Crustal and Mantle Structure in Bay of Bengal Based on Surface Wave Data. *Journal of Geodynamics* <https://doi.org/10.1016/j.jog.2017.11.006>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Lateral Variation in Crustal and Mantle Structure in Bay of Bengal Based on
Surface Wave Data**

Amit Kumar¹, Sagarika Mukhopadhyay^{1,*}, Naresh Kumar², P.R. Baidya³

1. Department of Earth-Sciences, IIT Roorkee, Roorkee-247667, India.
2. Wadia Institute of Himalayan Geology, Mahadeo Singh Road, Dehradun- 248001,
India
3. National Center for Seismology, Satmet Building, India Meteorological Department
Complex, Lodi Road, New Delhi - 110003, India

*Corresponding author e-mail: sagarfes@iitr.ac.in

Abstract

Surface waves generated by earthquakes that occurred near Sumatra, Andaman-Nicobar Island chain and Sunda arc are used to estimate crustal and upper mantle S wave velocity structure of Bay of Bengal. Records of these seismic events at various stations located along the eastern coast of India and a few stations in the north eastern part of India are selected for such analysis. These stations lie within regional distance of the selected earthquakes. The selected events are shallow focused with magnitude greater than 5.5. Data of 65, 37, 36, 53 and 36 events recorded at Shillong, Bokaro, Visakhapatnam, Chennai and Trivandrum stations respectively are used for this purpose. The ray paths from the earthquake source to the recording stations cover different parts of the Bay of Bengal.

Multiple Filtering Technique (MFT) is applied to compute the group velocities of surface waves from the available data. The dispersion curves thus obtained for this data set are within the period range of 15 to 120 s. Joint inversion of Rayleigh and Love wave group velocity is carried

Download English Version:

<https://daneshyari.com/en/article/8908432>

Download Persian Version:

<https://daneshyari.com/article/8908432>

[Daneshyari.com](https://daneshyari.com)