

PREFACE

Seismic waves sampling the interior of the Earth carry with it a variety of informations in its signature, which appear to be the only informations received from the deep interior of the Earth. These informations, when translated - may be with some simplifying assumptions and caveats - throw light upon the various properties like the composition, density, elasticity, 'anelasticity', etc. and to some extent about the thermal state of the interior of the Earth.

"All global studies of the lateral heterogeneity in the lower mantle have relied on the travel time anomalies of P waves" (Dziewonski, 1984). This thesis deals with the investigations of the variation of velocity and the intrinsic dissipation parameter Q of the P waves in the lower mantle region utilising the travel time data and the spectral content of the first arrival P waves from 24 nuclear explosions at four sites in USA and USSR and three earthquakes at North Atlantic and the South Pacific region, using simple inversion techniques.

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Finally I declare that this thesis or any part of it had not been submitted to this or any other institution for any research degree.

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