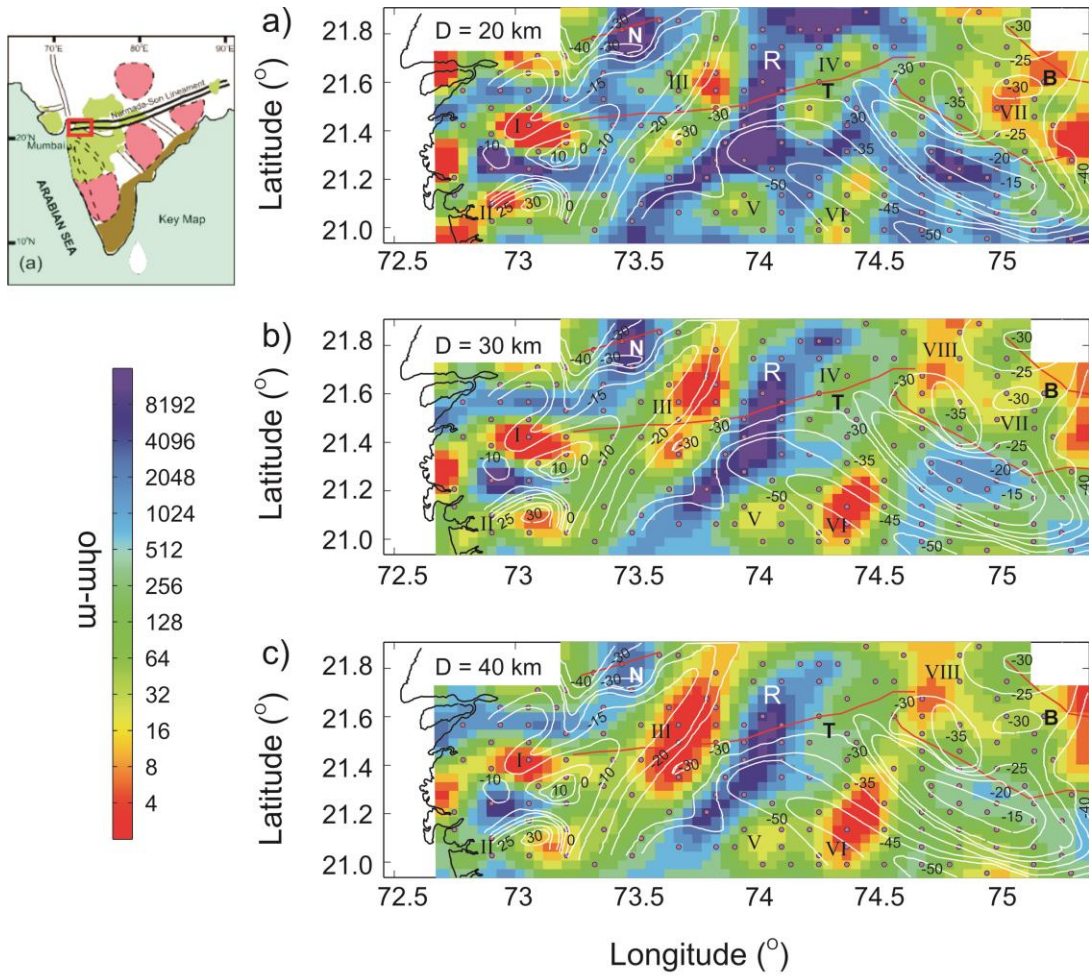


## Evidence for an extensive intrusive component of the Deccan Large Igneous Province in the Narmada son Lineament region, India from three dimensional magnetotelluric studies.

The crustal electrical structure beneath the western segment of Narmada-Son lineament zone in Central India has been imaged using magnetotelluric (MT) data set of 153 stations distributed over a grid (~ 7-8 km site spacing). Three dimensional modeling of this data set brought out several major crustal conductors with different geometries at different depth levels in the crustal column. The conductive features, correlating with gravity high anomalies and high seismic velocity zones are interpreted to be mafic-ultramafic bodies derived from mantle. We infer that these bodies represent the intrusive component of the Large Igneous Province (LIP) of the Deccan volcanic episode triggered by the passage of the Indian continent over the Reunion hot spot during the Late Cretaceous. The disposition and the geometry of the subsurface magmatic bodies, which must have served as magma chambers for outpouring of the Deccan lavas, suggest that they are closely related to the plumbing geometry of the LIP of the Deccan volcanic episode.

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<http://authors.elsevier.com/a/1TSKo,Ig45Zgj>



Horizontal depth sections derived from 3D inversion of full tensor MT data at depths 20, 30 and 40 km are presented along with gravity contours (white lines) superimposed. Narmada (N), Tapti (T) and Barwani-Sukta (B) faults are marked as red lines.