

## **DEEP CRUSTAL ELECTRICAL CONDUCTIVITY BENEATH NARMADA – SON – LINEAMENT ZONE AND ITS TECTONIC IMPLICATIONS**

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A magnetotelluric study has been carried out along a 270 km long N-S trending traverse extending from Akola (in the south) to Sehore (in the north) with a station spacing of 4-7 km. This traverse cuts across several major E-W trending faults viz., Purna, Gavilgarh, Tapti and Narmada faults. The data are analyzed and rotated to N70E. 2D inversion has been carried out by using NLCG (Non Linear Conjugate Gradient) scheme. The upper crust has shown high resistivity values ( $\sim 10\,000$  ohm-m) towards the north compared to south of Narmada south fault. Mid lower crust is less resistive ( $1\,000 - 2\,000$  ohm-m). The present MT model is compared with Ujjain-Dorwa-Mahan and Khajuriakalan-Multan-Pulgaon deep seismic sections and also with bouguer gravity anomaly. Our results have identified underplated material associated with deep seated faults in the mid lower crustal depths. An attempt also been made to identify the boundary (and its nature) between Bundelkhand Craton and Dharwar Craton.

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