

New Suture Mark in the Central Indian Tectonic Zone

The Central Indian Tectonic Zone (CITZ) was formed due to the Proterozoic collision process between the southern and northern blocks of the present Indian peninsular shield. Several studies were carried out over this tectonic feature to understand its formation, controversy remains on the subduction polarity and location of the suture line between the southern and northern blocks. Some studies proposed the Central Indian Shear (CIS), which marks the southern margin of the CITZ, as the suture line between the two blocks while others hinted at the possibility of locating the suture mark further north of the CIS. The present magnetotelluric (MT) study carried out across the eastern segment of the CITZ did not show any deep crustal resistivity anomaly, which are commonly observed below suture zones, associated to the CIS. Instead, the resistivity model showed an interesting north dipping conductive horizon in the crust, which further extends into the upper mantle as a subvertical moderately conductive feature and can be traced onto the surface mark of the Tan Shear (TS). This is interpreted as generated due to subduction-collision process and suggests a suture status to the Tan Shear. Additionally, the present study imaged conductive to moderately conductive features connected to the Bhandra- Balaghat Granulite (BBG) and Ramakona-Katanggi Granulite (RKG) belts, and the Narmada Son Lineament (NSL) within the CITZ.

For Further Details:

Abdul Azeez, K. K., Prasanta K. Patro, T. Harinarayana, S. V. S., Sarma, 2017: Magnetotelluric imaging across the Tectonic structures in the eastern segment of the Central Indian Tectonic Zone: Preserved imprints of polyphase tectonics and evidence for suture status of the Tan Shear. *Precambrian Research*, 298, 325-340, <http://dx.doi.org/10.1016/j.precamres.2017.06.018>.

<http://www.sciencedirect.com/science/article/pii/S0301926817300888>

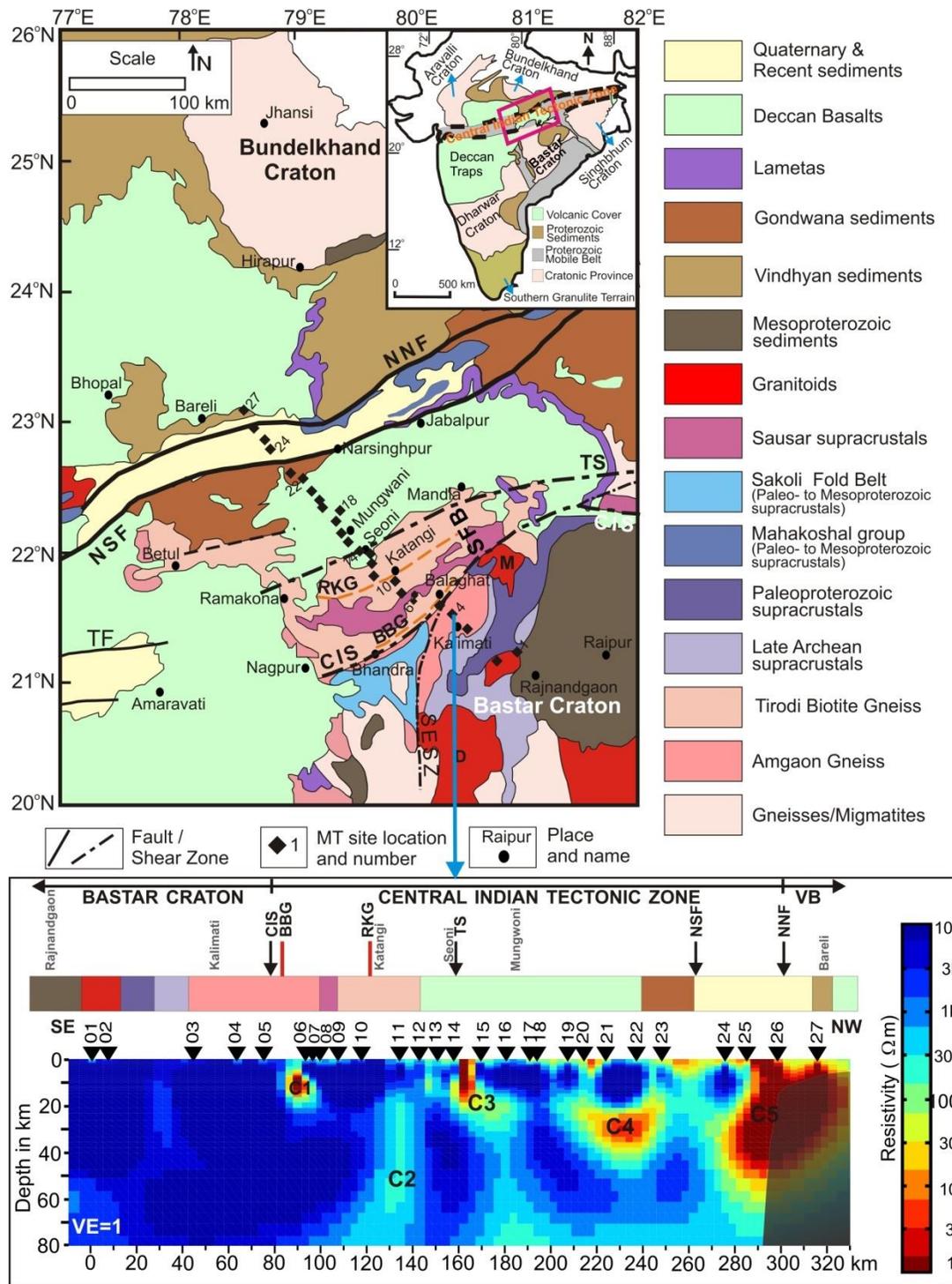


Figure: Location of the MT profile (above) and 2D resistivity model (below) retrieved from the data at 27 MT sites (black diamond symbols) along the profile.