Volcanic passive continental margin beneath the Maitri station, East Antarctica

Located in Schirmacher Oasis, near the Princess Astrid Coast, East Antarctica, Maitri is India's second permanent research station in Antarctica and provides facilitieis to carry out research in various disciplines. Its critical location necessitates a detailed study of the crustal structure and the nature of intra-crustal layers beneath this region. This provides an opportunity to understand the mechanism(s) responsible for the breakup of the Gondwana supercontinent and also the dynamics of plate motions. In a study recently published in the journal "Polar Research", Sandeep Gupta and co-authors investigated the crustal shear wave velocity model below the Maitri base-station by using earthquake data and applying the receiver function technique. Based on their investigation, the first of this kind using Maitri seismological data, and information available from other earlier studies, the authors suggest that the crust beneath the Maitri station represents a volcanic passive continental margin. They also infer that after its origin in the Precambrian and during its subsequent evolution, it might have been affected by the post-Precambrian tectono-thermal event(s) responsible for the Gondwana supercontinent break-up.

For further details: Sandeep Gupta, Nagaraju Kanna, A. Akilan, 2017, Volcanic passive continental margin beneath Maitri station in central DML, East Antarctica: constraints from crustal shear velocity through receiver function modelling. ***Polar Research.***

http://dx.doi.org/10.1080/17518369.2017.1332947