## Grenvillian Overprinting of Archaean Granulite Event and Oblique Collision:U-Pb Isotopic Evidence from the Northern Segment of the Eastern Ghats Granulite Belt, India

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Although, multiple granulite facies metamorphism have been recorded with isotopic data from the Eastern Ghats Granulite Belt, the existence of different crustal domains/provinces in this regional granulite belt, leads to further complications. Particularly, the relation between the distinct crustal domains in terms of orogenic episodes and juxtaposition remains poorly constrained. The Rengali domain, adjoining Singhbhum craton to the north is reported to be an Archaean domain (Rickers et al., 2001)<sup>[1]</sup> and the distinct tectonic trend of ESE-WNW, and structures indicating N-S shortening, could represent a syntaxial bend due to oblique collision of an indenter in the EGB with the craton (Bhattacharya, 1997, 2002; Mukhopadhyay and Basak, 2009)<sup>[2],[3],[4]</sup>. The charnockite suite in this domain present U-Pb isotopic evidence of an Archaean granulite facies event (~3.0 Ga) and a Grenvillian overprint (~1.0 Ga). The khondalite suite in the same domain and with similar tectonic trend and structures (Kar, 2007), on the other hand, present only evidence of the Grenvillian thermal event. This would imply that the oblique collision is a Grenvillian orogenic episode. As a corollary, from the lack of evidence of pre-Grenvillian orogeny in the khondalite suite, the charnockite pre-cursor in this domain can not be considered as intrusive into the khondaliteprecursors/supracrustals, as proposed by several workers from other crustal domains in the EGB (Subba Rao and Divakar Rao, 1988, Rickers et al., 2001, Dobmeier and Simmat, 2002)<sup>[6],[1],[7]</sup>.

## **Reference:**

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