

The significance of transitional zone between Singhbhum Craton and Eastern Ghats Mobile Belt around Bhuban, Dhenkanal District, Odisha

A. K. Tripathy, M. Das, M.Mohanty

Abstract

The lithotectonic disposition of the northern contact between Eastern Ghats Mobile belt and Singhbhum Craton around Bhuban is significant in many aspects. The hitherto assumed Brahmani lineament as the contact is superficial and existence of a distinct zone at par with Rengali Province is supported. Unlike Rengali province the high grade metapelites of this transition zone prove their lineage from the adjoining cratonic domain. The EPMA dating of metapelites could prove the presence of upthrust slices of lower continental crust of the Archaean Singhbhum Craton within this transitional zone including the Rengali Domain. The timing of the peak granulite metamorphism at 3.06 Ga age is close to 3.09 Ga which is the age for adjoining Singhbhum Craton. A progressive ductile deformation or a two stage model for development of mylonite-pseudotachylite is proposed for this area. Further, the dismembered chromiferous and PGE bearing ultramafics in this transitional zone have stressed for further research.

Key words: Bhuban, transitional zone, PGE