

# Petrology and geochronology of rocks in and around Chitradurga shear zone: Some insights to the mode and timing of amalgamation of western and eastern Dharwar cratons, South India

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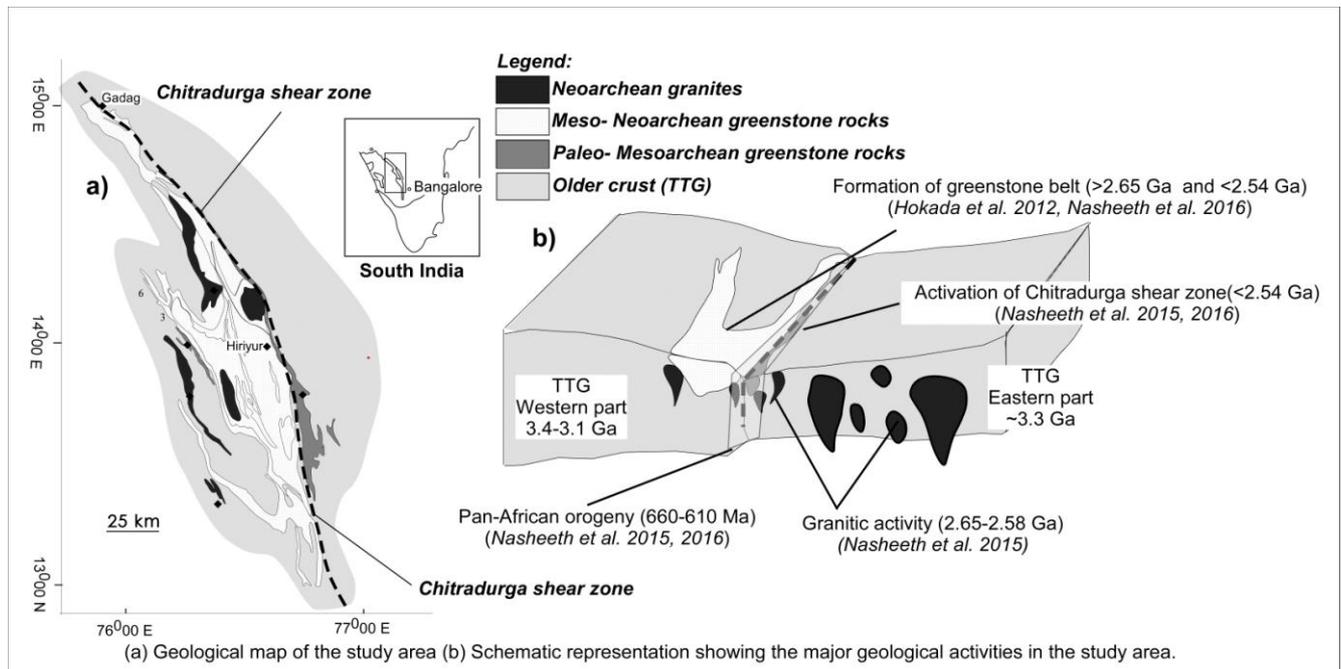
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Here we present detailed field geology, petrographic and geochemical analyses of rocks in and around Chitradurga shear zone, Dharwar craton of South India. The results impose very significant constraints on the current interpretation of geodynamic evolution of the Dharwar craton. One of the hot debates in the tectonic context of the craton is the mode and timing of the amalgamation of western and eastern parts (Chadwick et al., 1997, 2000; Chardon et al., 2008, 2011). Those who claim plate tectonic theory for the early crustal evolution suggest the blocks were amalgamated along the Chitradurga shear zone due to subduction. However, my research reveals that the shear zone formed locally, and the amalgamation happened prior to the formation of the shear zone (Nasheeth et al. 2015, 2016). Furthermore, the shear zone crosscuts the greenstone rocks and granites, so that they were formed after the amalgamation. Besides, the detritus in the sedimentary rocks in the greenstone belts in the west were derived from the eastern part (Nasheeth et al. 2016). All those observations suggest that the subduction does not be the cause for the evolution of Dharwar craton. The first report of the thermal imprints along the Chitradurga shear zone at the Pan-African time is also a new discovery from my research and it should be studied in detail in a global scenario of the continents.



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