



207Pb-206Pb zircon ages of eastern and western Dharwar craton, southern India : Evidence for contemporaneous Archaean crust

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Dharwar craton is one of the major Archaean crustal blocks in the Indian subcontinent. The craton is comprised of two blocks, western and eastern. The western domain is underlain by orthogneisses and granodiorites (ca. 2.9-3.3 Ga) collectively termed as Peninsular Gneiss [e.g., 1] interspersed with older tracts of metasedimentary and metamorphosed igneous suites (Sargur Group and Dharwar Group; [2]). The eastern part of the craton is dominated by Late Archaean (2.50-2.75 Ga) granitoids and their gneissic equivalents. They are interspersed with schist belts (also of Sargur Group and Dharwar Group), which are lithologically similar to the Dharwar Supergroup in the western block, but are in different metamorphic dress. Here we report 207Pb-206Pb age of zircons separated from the metasedimentary and gneissic samples from the two blocks to constrain the evolution of the Dharwar craton during the early Archaean.

Detrital zircons of the metasedimentary rocks from both the blocks show a wide range of overlapping ages between \sim 2.9 to $>$ 3.5 Ga. Zircon ages of the orthogneisses from the two blocks showed that most of the analysed grains of the eastern Dharwar block are found to be of the age as old as the western Dharwar gneisses. Imprints of younger events could be discerned from the presence of overgrowths in zircons from the studied samples throughout the craton. Our data suggest that crust forming cycles in the two blocks of the Dharwar craton occurred contemporaneously during the Archaean.

References

- [1] Beckinsale, R.D., Drury, S.A., Holt, R.W. (1980) Nature 283, 469-470.
- [2] Swami Nath J., Ramakrishnan M., Viswanatha M.N. (1976) Rec. Geol. Surv. Ind., 107, 149-175.