

GEOCHEMISTRY AND GEOCHRONOLOGY OF GRANITES OF PENINSULAR INDIA : SIGNIFICANCE IN URANIUM EXPLORATION WITH SPECIAL REFERENCE TO DHARWAR CRATON - A REVIEW

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Abstract

Discrete crustal blocks, namely the Dharwar Craton, Bastar Craton, Bundelkhand Craton, Singhbhum Craton, Eastern Ghats and granulites terrain of southern India Constitutes Peninsular India. The cratonic blocks are separated by Godavari rift, Narmada-Son lineament and Mahanadi rift/Sukinda thrust. Separation of the cratons by such thrusts and orogenic belts and lack of correlation between rock suites in them, favor the concept of accretion of separate continental fragments in forming the Indian Shield. The cratonic blocks have witnessed episodic granitic magmatic activities with peak ages recorded around 3500Ma, 3300Ma, 3100Ma, 2500Ma, 2200Ma, 1800Ma, 1100Ma, and 470Ma. These global granitic activities played vital role during the formation of cratonic nuclei in the Archaean time and crustal growth during the Proterozoic and later periods of the earth's history. Some of the younger and evolved granites contributed significantly as a source for uranium mineralization in Proterozoic and Phanerozoic basins of India.

Keywords: Granitoids, Uranium Mineralization, Dhawar Craton.