



## **EMP monazite dating of granitoid deformation: implications for Neoproterozoic ductile shear zone tectonics to the west of the Delhi Fold Belt**

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Geochronology using the in-situ "chemical" Th-U-Pb dating of monazite with the electron microprobe is used to unravel the Neoproterozoic tectonothermal history of the "Erinpura" granitoid terrane in the foreland of the Delhi Fold Belt in the NW Indian craton. These granitoids were partially deformed during shearing activity. Monazites from the Erinpura Granite recorded two main events: (1) A  $863 \pm 23$  Ma event which is considered as a granitoid protolith crystallization age and (2) a 775 Ma event, interpreted as recrystallization as well as newly formed Th-poor monazites, related to a shearing overprint. Some components of the Erinpura granitoid suite, such as the Siyawa Granite and granite near Sirohi town show evidence of migmatization. This migmatization event is documented by anatexis and monazite crystallization at  $779 \pm 16$  Ma. The data indicate that the anatectic event marks the beginning of ductile shear zone deformation, which lasted until  $736 \pm 6$  Ma. This age mark is also constrained by the Ar-Ar muscovite age data obtained from shear zone rocks in the Sirohi Belt.