U-Pb Zircon (SHRIMP) ages of granite sheets and timing of deformational events in the Natal Metamorphic Belt, southeastern Africa: Evidence for deformation partitioning and implications for Rodinia reconstructions

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Abstract

This study provides constraints on the ages of deformation events and fabric development in deformed rocks of the Margate Terrane of the Natal Metamorphic Province. The Margate Terrane forms the southernmost of three terranes considered to represent multiple arc accretion onto the southern margin of the Kalahari Craton, and geochronological data indicate that the Margate Terrane has a long history of sporadic magmatism from ~1180 Ma to ~1025 Ma. Two granite sheets of differing structural age, as revealed by deformational fabric and cross-cutting relationships, were sampled for U-Pb (SHRIMP) dating from coastal outcrop at Southbroom