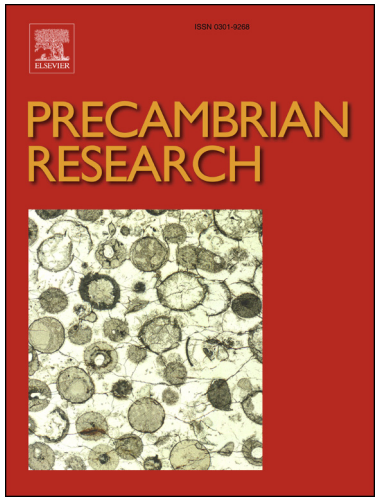

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Field and geochronological evidence for origin of the Contendas-Mirante Supracrustal Belt, São Francisco Craton, Brazil, as a Paleoproterozoic foreland basin

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The low-grade Contendas-Mirante meta-volcano-sedimentary belt (CMB) was previously interpreted as an Archean greenstone belt with the uppermost formation deposited in the Paleoproterozoic. New zircon U-Pb LA-ICP-MS ages on sedimentary groups and granite sheets intrusive in the belt constrain the timing of basin development. Phyllites of the Lower Group and meta-arenites of the Upper Group yielded similar young zircon populations at ca. 2080 Ma, which are interpreted as the maximum deposition age for the entire sequence. The unique exception is the 3273 to 3338 Ma zircon-bearing quartzite that occurs in spatial association with the 3300 Ma rhyolite. A granite sheet intrusive into metagraywacke of the Lower Group constrains the minimum deposition age of 2045 ± 26 Ma for the CMB. Altogether four main age clusters of detrital zircon grains were recognized, namely 2075-2200 Ma, 2200-2440 Ma, 2500-2770 Ma, 3270-3380 Ma. These age intervals match the ages of igneous and metamorphic rocks in the different terranes that comprise the São Francisco craton. Maximum deposition age for both groups indicates that sedimentation occurred immediately prior the high-grade metamorphism in the adjacent Archean-Paleoproterozoic Jequié Block and Itabuna-Salvador-Curaçá Orogen. These observations, along with coarsening upwards in the sediments, indicate that the CMB