

## **ONE-BILLION YEARS OF ARCHEAN CRUSTAL EVOLUTION IN THE SÃO JOSÉ DO CAMPESTRE MASSIF, BORBOREMA PROVINCE, NORTHEAST BRAZIL.**

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New U/Pb and Sm/Nd data of Archean rocks of the São José do Campestre Massif (SJCM) in the Borborema Province (BP), northeastern Brazil, reveal the existence of a new juvenile crustal segment dated at 3.3 Ga. The oldest continental crust of the South America segment is registered in calcium-alkaline rocks with age of 3.45 Ga (U/Pb zircon), already derived from an older sialic crust (TDM model ages models of 3.77 Ga). Different periods of trondhjemitic magmatism at 3.25 and 3.18 Ga characterize cyclical recycling/reworking events and growth of juvenile crust developed previously around the described rocks. Archean metamorphic events in amphibolite facies with migmatization are registered through U/Pb zircon and monazite ages in different rocks of SJCM. Syenogranites dated at 2.7 Ga correspond the youngest and most evolved plutonic unit of this Archean nucleus. The SJCM was subsequently affected by Paleoproterozoic magmatism and tectonism. The complex and protracted evolution of this massif suggests that it may be a detached crustal fragment of a larger Archean cratonic mass.