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**PALEO-TO-MESOARCHEAN CRUSTAL EVOLUTION IN THE UAUÁ BLOCK,
NORTHERN SÃO FRANCISCO CRATON, BRAZIL: NEW INSIGHTS FROM
PETROGRAPHY, U-Pb GEOCHRONOLOGY, Lu-Hf ISOTOPES AND TRACE ELEMENTS
IN ZIRCON**

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The timing of Earth's initial crustal growth and reworking through collisional settings remains an issue of extensive debate. Here, we report Paleo- to Mesoarchean migmatite-gneiss complex, temporally and spatially associated with a convergent plate boundary in the Uauá Block, Brazil. This complex record amphibolite-bearing tonalitic residue and pyroxene-bearing granitic leucosome. Orthopyroxene indicates high-temperature metamorphism during leucosome generation, while the widespread retrogressed hornblende in the residue indicates conditions corresponding to amphibolite facies. Zircon grains display LREE-depleted magmatic cores characterized by distinct zoning, crystallized at 3325 ± 70 and 3245 ± 8 Ma, enclosed by LREE-enriched metamorphic overgrowth zones and rims formed at 3120 ± 7 and 3069 ± 9 Ma, accompanied by an increase in Ti content. The $\epsilon_{\text{Hf}}(t)$ values decrease with time from +1.55 to -7.06 and Lu/Hf ratios (0.001-0.011) are consistent with the evolution of the Paleo- to Eoarchean crustal sources with TDM Hf model ages between 3.56 and 3.73 Ga. Our findings provide direct evidence of crustal reworking, implicating a Paleoarchean protolith that underwent early Mesoarchean high-temperature metamorphism which is spatially associated with a regional collisional setting in the São Francisco Craton. Further, we surmise that convergent tectonic processes may have played an important role in crustal reworking during the Paleo- to Mesoarchean transition. These observations allowed a comparison between the crustal evolution of the Uauá and Gavião Blocks in the northern São Francisco Craton, as well as with other Archean cratons.