Serrinha Suite: New Paleoproterozoic Plutonic-Volcanic Suite in the Southern São Francisco Craton, Brazil

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Several igneous bodies located near by São João del Rei were studied chemically and isotopically by $^{207}Pb/^{206}Pb$ (zircon evaporation). These bodies are represented by: Brumado de Baixo Granodiorite (2218 ± 4 Ma), Brito Quartz Diorite (2198 ± 6 Ma), Brumado de Cima Granodiorite (2187 ± 4 Ma), granophyric bodies (2192 ± 4 Ma) and volcanic rocks of rhyolitic composition.

The Serrinha Suite is composed by granophyric and rhyolitic rocks and by the Brumado de Cima Granodiorite that shows a overlap of igneous and metamorphic features, being considered as cogenetics. The rocks of this suite present peraluminous character, normative corundum, calc-alkaline filiation and they follow a high-K calc-alkaline trend of differentiation. In the Harker's diagrams the samples tend to form a curvilinear trend with close inflection to 71% of SiO_2, marked by the depletion of CaO, FeO, MgO, MnO and Sr. The REE's pattern is compatible with a cogenetic origin for the rocks of these suite, starting from the enrichment of these according to the differentiation of the magmatic liquid.

It is suggested that Serrinha Suite rocks are cogenetics and controlled by a magmatic differentiation process, involving fractional crystallization to low pressures. It is proposed that these rocks are part of an evolution of a Paleoproterozoic arc developed in the south border of the São Francisco Craton.