

TECTONIC CONTROL OF RAPAKIVI GRANITE MASSIFS AT THE RONDÔNIA TIN PROVINCE (RTP), BRAZIL

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Aerogamaspectrometric data, structural field evidences and integrated image interpretation, proved useful to discriminate tectonic environments and rapakivi magma emplacement controls at the central crustal section of the RTP. The basement rocks were affected by a ductile-brittle deformation related to a non-coaxial progressive deformation phase responsible for E-W, N-S and NW-SE trending strike-slip shear zones and for anticlockwise movements in the NW quadrangle and clockwise in the NE quadrangle. This fact indicates a rock mass flow from NE-ENE to SW-WSW during the mesoproterozoic compressive stage of the Rio Negro-Juruena orogenic cycle (1.80-1.70Ga.). During the subsequent phase of non-coaxial progressive deformation anticlockwise movements occurred in the E-W and N60W trending shear zones such as: dextral movements along N-S and N30E oriented shear zones and thrusts along the N35W ones. Transtensive movements related to divergent duplexes controlled by the E-W anticlockwise shear zones, started NW-SE oriented horst-graben structures which probable, controlled the initial emplacement of granite massifs with ages between 1.51 to 1.53Ga. From this time on brittle deformations originated by rhomb-chasms structures are predominant and host most of the Younger Massifs (1.08 to 0.97Ga.). Later on a generalized distension regime was responsible for normal faulting, controlled by the old crustal weakness lines.