

GRANITIC MAGMATISM AND TECTONIC EVOLUTION OF THE EASTERN DOM FELICIANO BELT – SOUTHERNMOST BRAZIL

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The granitic magmatism in the Eastern Dom Feliciano Belt, southernmost Brazil, was mostly controlled by the tectonic evolution of the belt. The evolution was established in two tectonic regimes: tangential during a continent collisional event and transcurrent in an intracontinental environment. The tangential regime with W-NW tectonic transport, low angle planar and linear structures, was responsible for tectonic imbrication and crustal thickening and controlled the emplacement of the high-K calc-alkaline syn-kinematic plutons of the Arroio Solidão Intrusive Suite about 800 Ma. The transcurrent regime with N-NE subvertical deformation sets of planar and subhorizontal linear structures was responsible for tectonic transport parallel to the elongation of the belt. This regime generated hundreds of metres wide shear zones, reaching the mantle as suggested by basic dykes, yielding crustal melts produced by the high thermodynamic gradients. The high thermodynamic gradients produced crustal melts. The syn- to late-transcurrent high-K calc-alkaline granitoids of the Arroio Moinho Intrusive Suite of about 672 Ma were followed by the 630-617 Ma crustal melt granites of the Cordilheira Intrusive Suite. At the end of the transcurrent regime, an extensional regime was installed when late- to post-kinematic calc-alkaline granitoids of the Campinas Intrusive Suite were emplaced. The granitic magmatism developed during the extensional regime and is represented by the 585 Ma post-transcurrence high-K calc-alkaline granitoids of the Canguçu Intrusive Suite. Alkaline-metaluminous granitoids of the Encruzilhada Intrusive Suite and a few small bodies of peralkaline granitoids represent the final episodes of the granitic magmatism in the Eastern Dom Feliciano Belt.