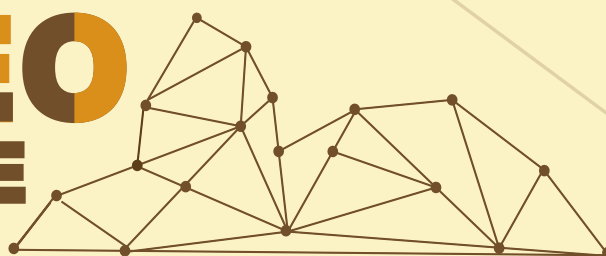


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# LIVRO DE RESUMOS



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## **P-T-T-D EVOLUTION OF EDIACARAN NAPPE IN THE SOUTHEASTERN BRANCH OF THE BRASÍLIA OROGEN (SE BRAZIL): CONSTRAINTS FROM METAMORPHIC MODELING AND MONAZITE PETROCHRONOLOGY**

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The medium-high grade rocks forming the hinterland of the orogenic wedge are able to record pressure (P) and temperature (T) changes during the orogen development, as well as its kinematic history. The Andrelândia Nappe System (ANS) is the hinterland of the Southern Brasília Orogen (SBO), and in order to reconstruct its tectono-metamorphic evolution field and microstructural observations were combined with metamorphic petrology (i.e., thermodynamic iterative modeling) and monazite petrochronology. The Liberdade Nappe attained prograde metamorphism at ca. 610 Ma, achieving peak metamorphic conditions of ~650°C and 9.5-10 kbar. This stage was followed by isothermal decompression linked to tectonic transport toward SE, at ca. 570 Ma. On the contrary, the Andrelândia Nappe experienced prograde metamorphism later, at ca. 580 Ma, reaching peak metamorphic conditions of ca. 680°C and 11-12 kbar. The obtained results indicate that the nappes of the Andrelândia System record a single metamorphic cycle of burial and decompression, although it took place at different ages over a period of ca. 60 Ma, from 630 to 570 Ma. The different ages when the nappes experienced prograde and retrograde followed a progressive decrease toward the bottom of the stack. This would have occurred owing to the propagation of older material from inner parts of the orogenic wedge, via thrust-and-fold, upon recently accreted rocks, conducting a younger metamorphism event on external parts of the wedge. This mechanism would be responsible to outline an in-sequence fold-and-thrust architecture to the ANS.

*PALAVRAS-CHAVE: MONAZITE PETROCHRONOLOGY, BRASÍLIA OROGEN METAMORPHISM, P-T-T-D PATHS, METAMORPHIC MODELING*