

Ar-Ar PLATEAU AGES AND KINEMATICS ANALISYS OF TECTONICS FRONTS IN AGUAPEÍ BELT AND SUNSÁS BELTS: COLLISIONAL TO OROGENIC COLLAPSE OF SUNSÁS PROVINCE-SW OF THE AMAZONIAN CRATON

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RESUMO: The Amazonian Craton on the border between Brazil and Bolivia recording amalgamation of the allochthonous Jauru, Rio Alegre, Alto Guaporé and Paraguá terranes which together form the basement of the Sunsás and Aguapeí Groups, a siliciclastic mesoproterozoic sedimentary over paleoproterozoic Jauru, Rio Alegre and Paraguá terranes. The Sunsás Orogeny (1.1 to 0.9 Ga) is composed of two belts: Sunsás Belt, a convergent or transpressional continental margin orogen, and Aguapeí belt, an intracontinental orogen, without new oceanic crust reworking. Regional neoproterozoic tectonic fronts are described in Bolívia (San Diablo, Concepcion, Rio Negro-Santa Catalina, Blanco-Ibaimiaí and Aguapeí) and Brazil (Pitas, Indiavaí-Lucialva, Piratininga, Corredor, Caramujo and Santa Rita). The purpose of this work is to present and discuss new geological and structural data of megashear zones of SW Amazonian Craton in Brazil and Bolivia and Ar-Ar plateau ages from mylonitic rocks of Piratininga and Indiavaí-Lucialva shear zones and K-Ar. The Ar-Ar data were gathered at the Ar-Ar Laboratory of CPGEO-USP. These NW-trending ductile shear zones display mylonitic and protomylonitic foliation, down-dip lineation, and kinematic indicators, such as mica fish, s-c structure and rotated porphyroclasts. Piratininga and Indiavaí-Lucialva shear sense indicators show a normal displacement associated with a major crustal extension in the Aguapeí Belt. Ar-Ar step-heating ages determined on muscovite grains from augen mylonites of the Indiavaí-Lucialva Shear Zone yield plateau ages of 916 ± 2 Ma and 915 ± 2 Ma; step-heating of muscovite from mylonitic rocks of the Piratininga Shear Zone display plateau ages of 929 ± 3.6 Ma and 923 ± 3 Ma. Bolivian major ductile shear zones San Diablo, Concepcion, Rio Negro-Santa Catalina and Blanco-Ibaimiaí, NEE-trending ductile shear zones display mylonitic and protomylonitic foliation, strike slip lineation, and kinematic indicators, s-c structure and rotated porphyroclasts, shows transcurrent to transpressional kinematics, these fronts are tectonic limits of mesoproterozoic crustal blocks and shows K-Ar ages between 1000 Ma to 870 Ma. Considering geological data, kinematic and structural analysis of shear zones, Ar-Ar and K-Ar ages, we suggest that brazilian major shear zones are formed during a period of orogenic collapse in the Aguapeí Belt on the other hand, the bolivian fronts in Sunsás Belt shows transpressional kinematics suggest a marginal orogen dominated by oblique collision at the end of the Supercontinente Rodínia agglutination, in Amazonia paleocontinent.

PALAVRAS-CHAVE: AMAZONIAN CRATON, EXTENSIONAL SHEAR ZONES, Ar-Ar AGES