U-Pb zircon ages and Sr-Nd isotopic composition of Neoproterozoic magmatism, Dionisio-Sierra de los Ríos block, NE Uruguay

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The Dionisio-Sierra de los Ríos block consists of various plutonic rocks of Neoproterozoic age, all related to the collision between Río de la Plata and Kalahari cratons [1 and references therein]. This block belongs to the Aiguá-Pelotas Batholith of the Dom Feliciano Belt, also known as the granitic belt [2]. Their composition range from granites, granodiorites and sienogranites, showing variable degree of deformation from isotropic to milonitic textures. Geochemically they are high K calc-alkaline rocks, showing magmatic arc to post collisional signature.

A total of five samples presenting igneous zircons with overprinted late-post-magmatic features were analyzed. The obtained U-Pb zircon ages (LA-ICP-MS) yielded a range from 625 to 600 Ma for each sample, implying 25 Ma time interval for their emplacement. The isotopic data obtained in the same samples indicate εNd values range from -4.2 to -6.4, while $^{87}Sr/^{86}Sr$ range varies from 0.70817 to 0.71759.

The ages obtained for these rocks are coherent with the ones indicated for other granitic bodies belonging to the Aigua and Pelotas batholiths [3][4], developed to southwest and northeast respectively. The ages obtained here are interpreted as indicative of the initial magma generation (~625 Ma) and emplacement (~600 Ma).The isotopic and petrologic data suggest crustal participation in their genesis.

[1] Sánchez-Bettucci et al. (2010) *INT GEOL REV*, **52**: 1, 51-78. [2] Basei et al. (2000) *Tectonic evolution of South America, 31st IGC,* pp. 311-334. [3] Oyhantçabal et al. (2010) *INT J EARTH SCI*, **100(2-3)**: 379-390. [4] Philip & Machado (2005) *J S AM EARTH SCI,* **19:** 461–478.