Geochronology and isotopic signature of the Piedra Alta Terrane, Uruguay.

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The Piedra Alta Terrane Terrane makes up the Transamazonian crystalline basement of Uruguay. Three nearly parallel belts integrate it, showing metasedimentary and metavolcanic rocks, intruded by a calc-alkaline granitic suite. Between these belts infracrustal granitic gneisses occur. They show near horizontal tectonic boundaries, in which peraluminous granites and pegmatites emplaced.

Geochronological studies were carried out in granites from diverse crustal levels: Cerro Colorado and Florida supracrustal rocks; Montevideo medium metamorphic grade supracrustal rocks; Isla Mala, Marincho, La Paloma, La Graciana granites, which characterize the roots of an upper crustal magmatic arc; and Mahoma, an anorogenic subvolcanic suit of an upper crustal setting.

All isotopic ages are grouping around 2000±50 Ma, although the different geotectonic settings, showing an evolution, with mostly juvenile accretion of the Paleoproterozoic Transamazonian cycle in Piedra Alta Terrane.

An andesite-basalt dike swarm, which emplaced 1780±5 Ma, reveal an extensional regime that marks an stabilization episode in the region.