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Postorogenic emplacement of the Santa Marta Batholith, northwestern flank of the Sierra Nevada de Santa Marta (SNSM).

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The Santa Marta Batholith (BSM) belongs to a Paleogene intrusive suite of the Santa Marta massif, an exhumed triangular block at the southern Caribbean margin. Its Paleogene age precludes its association to an active margin, although its emplacement was controlled by the flexure of the down-bent Southamerican plate. Its internal structure is outlined by a mafic border facies and a felsic core, both having a petrologic affinity to a TTG-suite. According to existing age data, the BSM consolidated sequentially from SW to NE, with a first pulse having crystallized at 56 Ma in the southern domain and a final pulse in the northern domain at 52-50 Ma. Pressures varied between 5-7 kb, corresponding to depths of $\sim$ 14-19 km.

This study combines structural, thermochronological and geochemical data with an analysis of Anisotropy and Magnetic Susceptibility (AMS) and paleomagnetism. The SNSM had a clockwise rotation of 30 $^{\circ}$ and the ASM results help distinguish between two fault-bounded structural domains. The southern domain is characterized by a magnetic foliation concordant to the contact of the host rock that dips toward the hinterland. The northern domain, in contrast, displays a N-S trending magnetic foliation that is oblique to the regional structural northeastern trend. This divergence is supported by the orientation of mineral lineations, enclaves and dikes.

In spite of its arc signature, anomalies like enrichment in Ti, depletion of Nb-Ta and Zr-Hf, as well as flat REE patterns can be associated to the accumulation of crystallized mafic minerals from less-fractionated magmas. These data evidence mingling.

Asymmetric internal organization, as indicated by a hinterland-dipping roof pendent, the structural setting at the margin of a thickened continental margin and its geochemical signature favor a scenario of a magma generation at a mid-crustal level and its consequent extrusion along a channel, that connected to the crustal bend of the continental plate that was inherited from the Cretaceous subduction cycle.