

## **Late-Stage Melt Segregation from a Crystallizing Pluton: Magma Differentiation and Comparison to Migmatite Structures**

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Interstitial melt extraction has seldom been described, though frequently used to explain the origin of cumulitic textures and granitoid differentiation. Here, we describe a network of decimetric blobs and dykes thought to represent melt extraction pathways. The structures crop out in a single outcrop of the Tavares Pluton, NE Brazil. They are filled with a variety of evolved melts extracted from the immediate surrounding, as indicated by complex external shapes and narrow "melanosome" rims. Irregular, melt-poor melanosome layers are also common and form a network, where leucogranite concentrates at layer interceptions. The melanosome layers represent residues from where melt has been extracted whereas leucogranite blobs at layer interceptions represent drainage channels. The structures described are responsible for late-stage magma differentiation and are comparable to structures developed in migmatites, but with two significant differences: i) migmatitic structures develop during rock melting and volume expansion, whereas in Tavares, structures developed during magma crystallisation and volume shrinkage; ii) migmatites generally develop during regional metamorphism, at slow rates and tectonics plays an important role, whereas pluton cooling involves faster rates and less important tectonic control. These differences are reflected in their different structures.