Petrographic caracterization and studies of anisotropy of magnetic suscetibility of the Cabanas granite (Borborema Province, NE Brazil)

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The Cabana granite is a elongate body, 35km long and approximatly 7km wide, emplaced into migmatites, ortogneiss, micaschist and paragneiss. It's a muscovite-biotite leucogranite medium-grained with homogeneous equigranular texture. Tectonic deformation is only observed at its northern portion where it was affected by a high temperature shear zone. Petrographic studies revealed the following mineralogy: quartz, plagioclase, microcline, biotite, muscovite, zircon, opaque minerals and clorite. Some evidences of ductil deformation such as S-C foliations, mica-fish, subgrains formation, mymerkitic texture in plagioclase, are observed. The anisotropy data indicated magnetic suscetibility, in general, below 10^{-4}SI, with a predominance of oblate elipsoids. The anisotropy degree is below 1,3. The magnetic foliations displayed two main directions: EW to NE-SW and NS to NW-SE. The first one steeply dipping is related to the transcurrent regime. The other, developed prior to the transcurrent regime, may represent a fabric acquired through syn-magmatic folding. The petrography and anisotropy displayed by the Cabanas granite evidences (1) two deformational events characterized by magmatic folds which were affected by a latter transcurrent regime; (2) that the shear deformation ocurred in a ductil state at high temperatures and (3) that it is essentialy a paramagnetic body emplaced early to syn-transcurrent regime.