

Thrust Sheet Rotations Along Vertical Axes at Different Scales on the Central Quadrilátero Ferrífero, Brazil

CORRÊA NETO¹, A.V.; ROSIÈRE² C.A. & DAYAN¹, H.

¹IGEO/UFRJ, Brazil; ²CPMTC/UFMG, Brazil

In the Fundão-Cambotas Thrust System, curved faults of different scales show striking similarities. The smaller thrusts are a few hundred meters long. Associated hanging-wall anticlines and foot-wall synclines are tight and display curved axes, closely following the thrust fault's strike variations. Stretching lineations and foliations dip towards northeast on its southern sectors, while at the northernmost, they dip towards southeast. At the central sectors, foliation and stretching lineation dip to the east. The Ouro Fino Syncline is a kilometric fault-bounded structure. Stretching lineation and foliation display the same orientation behaviour of the smaller structures. The larger Fundão Thrust System also show curved morphology, but at its southern sector, transcurrent components are stronger. In this area, the stretching lineation plunges to east-southeast, while the foliation dips towards the northeast. It is suggested that these structures evolved initially from north-trending thrust sheets. The advance of the thrusts was partially blocked by NE-trending and NW-trending basement highs of different sizes, inherited from earlier deformation events. These structures probably also influenced the internal organization of the metasediments prior to thrusting. Further advance of the thrust sheets forced the faults to assume a curved morphology, generating clockwise rotation of the sheets on their northern sectors and anti-clockwise rotations on their southern sectors. Deformation partitioning on transcurrent zones may account for the stretching lineation orientation pattern at the Fundão Fault's southern sector.