

Late Variscan Compression in the Northern Part of the Izera-Karkonosze Block

Wojciech CZAPLIŃSKI

Institute of Geological Science, Polish Academy of Sciences, Podwale 75, 50-449 Wrocław, Poland

Ductile, semiductile and brittle mesostructures interpreted as due to N–S compression were observed in granites, gneisses, amphibolites and various schists building the northern part of the Izera–Karkonosze Block (between the Main Intra–Sudetic Fault and the Stara Kamienica schist belt) and the adjacent Kaczawa Complex.

The observed mesostructures include folds, boudins, conjugate kink-band sets, tension gashes, reverse and thrust faults. Folds, mostly folded quartz veins, are characterised by subhorizontal axes and display consistent, throughout the area, southern vergence. Their morphology varies from tight isoclinal folds to open kink-folds. Geometrical analysis of other above listed structures also points unambiguously to N ÷ S general direction of tectonic transport.

The quartz *c*-axis orientation diagrams show mostly 4 strong maxima near the circumference of the stereonet, displaying

orthorhombic symmetry, which is incompatible with persistently asymmetric rock fabric (e.g. winged porphyroclasts, grain shape fabric). Detailed examination reveals, however, relicts of asymmetric joining girdles or asymmetry in the intensity of maxima. Such figures are interpreted as resulting from overprinting of older asymmetric patterns by the younger ones, originated during non-rotational deformation.

N-S compression post-dates the sinistral strike-slip event recognized along the MISF. The character of mesostructures varying from ductile to brittle, and quartz *c*-axis orientation patterns typical of low temperatures imply that the compressional event took place under conditions of the lower greenschist facies and below.

On the regional scale this implies thrusting of the Kaczawa Complex over the Izera–Karkonosze Block.