

Photograph of the Month

Three dimensional sheath folds in quartz mylonite, Cap de Creus



Three dimensional sheath folds in quartz mylonite, Cap de Creus. Photograph by Ian Alsop. Copyright G.I. Alsop.

Highly curvilinear sheath folds are developed within bands of quartz mylonite in a phyllonitic host, Cap de Creus, Spain (see [Alsop and Carreras, 2007](#)). The sheath folds locally display up to 160° of hinge line curvature to define “hairpin” geometries. Phyllonite is preserved in the core of each 3D sheath, which close in both directions about the mineral lineation defining the transport direction. The downwards closing sheath immediately to the left of the coin (15 mm diameter) displays highly variable hinge orientations, whilst the upwards closing sheath further to the left is marked by an irregular hinge associated with fold hinge-line vergence (see [Alsop and Holdsworth, 2004](#)). These sheath folds are bisected by the mylonitic mineral lineation, which they locally refold around their hinges. There is no evidence of multiple

deformation “phases” and sheaths at various stages of “evolutionary” development can be observed. These sheaths are interpreted to be the product of progressive deformation within a simple shear-dominated shear zone.

Please send comments to jsg@uni-mainz.de.

References

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