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Atlas of Mylonites – and related microstructures

Mylonites form in response to high rates of strain within deep ductile shear zones, which are the extensions at depth of surface faults, thrusts and fault breccias. They can have many different mineralogical compositions and are therefore defined by their textural appearance. This atlas provides high definition images of a large number of different mylonites

allowing students and geologists to correctly classify them with greater ease. It also offers insights into the interpretation of mylonitic fabrics to answer questions such as: from what type of rock did this mylonite derive? what were the metamorphic circumstances during mylonitization? what was the intensity of deformation? and what was the sense of shear?



Rudolph Trouw (born 1944) obtained his PhD in Leiden, the Netherlands (1973) supervised by Henk Zwart. Since 1978 he has been a professor at the Federal University of Rio de Janeiro, teaching microtectonics, geotectonics and metamorphic petrology. He is the second author of the book „Microtectonics“ and has penned various publications on regional geology and microtectonics. He has carried out extensive fieldwork in many mylonite zones in different continents. The photos in this atlas are extracted from thin sections of his teaching collection.



Cees Passchier (born 1954) is an expert in structural geology and tectonics whose research interests are mainly in microstructures and the kinematic analysis of deformed rocks. He is presently employed as Professor in structural geology and tectonophysics at the University of Mainz in Germany. Cees worked extensively on mylonite zones from all continents, and on the interpretation of mylonite microstructure in thin section and in electron microscopy. He is first author of the books „Microtectonics“ and „Field geology of high-grade gneiss terrains“ and the author of a large number of papers in the fields of structural geology and tectonics.



Dirk Wiersma (born 1939) studied geology at Leiden University, Netherlands, where he majored in sedimentology in 1965. He worked in oil exploration and in the industrial minerals business. In his free time he was always active as a photographer, and after obtaining a degree at the school of professional photography in Apeldoorn in 1993 this became his second profession. Part of his photography reflects his geological background, and as such he has developed specific technology for recording subjects on macro and micro scale, using reflective as well as transmitted light. A book of his photos focusing on the artistic beauty of minerals and rocks was published some years ago. For more information see his website: www.pantafos.com.

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System Requirements:

Adobe Acrobat Reader 8.x or later
and a software to view jpg-, txt- and tif-files

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