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Glossary of fault and other fracture networks

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Abstract

Increased interest in the two- and three-dimensional geometries and development of faults and other types of fractures in rock has led to an increasingly bewildering terminology. Here we give definitions for the geometric, topological, kinematic and mechanical relationships between geological faults and other types of fractures, focussing on how they relate to form networks.

Introduction

The large amount of work on faults, joints, veins and other fractures over the last few decades has led to the introduction of many new terms and some confusing terminology. Even the simple term *fracture* has itself become confusing and misused, tending to be used so generally that geological significance can disappear, as discussed by Manda and Horsman (2015). Referring to a *fracture* in rock can be like saying a person has a pet mammal – strictly true, but so vague as to be meaningless. Is the *fracture* a *fault*, *joint*, *vein* or *dyke*? Is the mammal a cat, capybara, honey badger or marmoset?

In this glossary, we focus on the relationships between different *fractures* and how they interact with each other and form *fracture network*s (Fig. 1). We give terms related to: a) different *fracture* types, b) relationships between *fractures*, c) *fracture* geometries, kinematics