

# Shear Microfabrics in Deformed Calcite

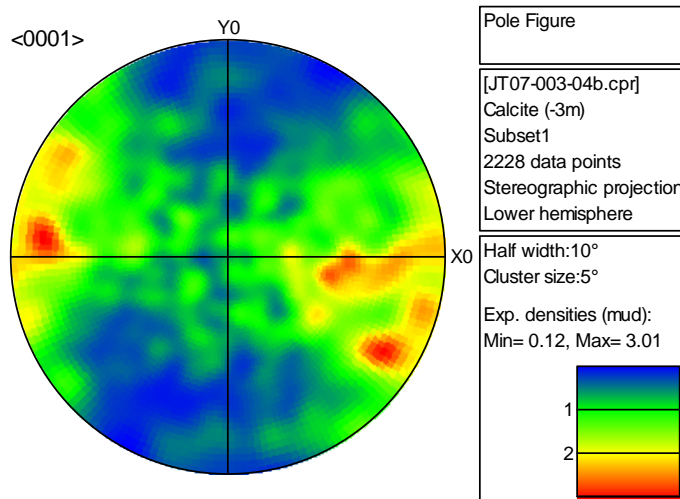
Bruce Moskowitz, Jessica Till, Mike Jackson

Institute for Rock Magnetism, Dept of Geology & Geophysics, University of Minnesota

NNIN Facility utilized: Characterization Facility

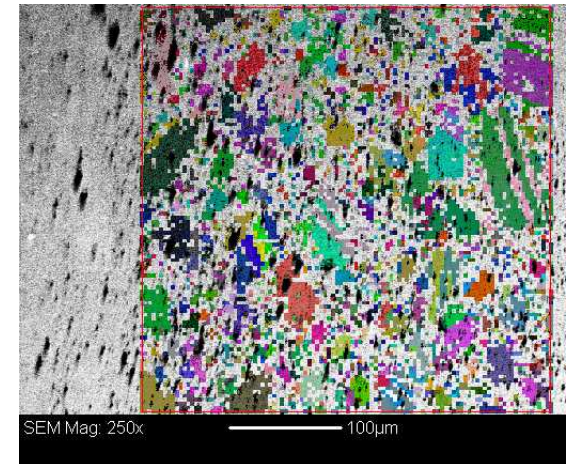
## ● Project Description

- ◆ Synthetic calcite-magnetite aggregates are sheared in deformation experiments
- ◆ Petrofabric in calcite matrix is quantified using EBSD to obtain crystalline preferred orientation (CPO)
- ◆ Magnetic anisotropy is used to compare magnetic fabric with petrofabric



## ● MAJOR OBSERVATIONS

- ◆ Calcite matrix lacks well-defined fabric due to extensive pre-deformation twinning, deformation mechanism is obscured even at high strains.
- ◆ Magnetic fabrics are a more reliable petrofabric indicator in material with extensive stress history



## ● Publications

J L Till, M Jackson, M E Zimmerman, B M Moskowitz (2007), *Development of Magnetic Fabrics in Experimental Shear Zones During Plastic Deformation*, Eos Transactions of the American Geophysical Union, 88(52), Fall Meeting Supplement, Abstract GP21A-0120