



Geowissenschaftliche Kolloquien SoSe 2024

10.06.2024

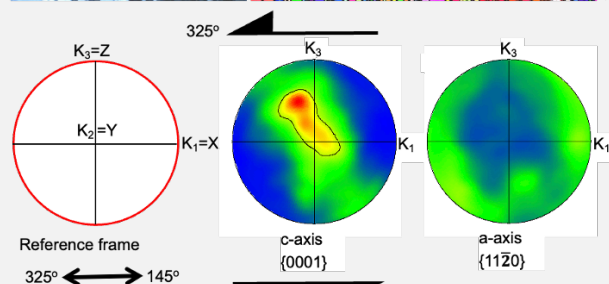
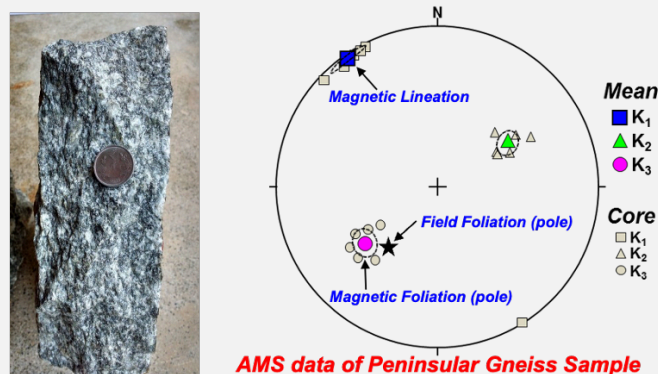
Prof. Dr. Manish A. Mamtani

17.15 Uhr

Department of Geology & Geophysics Indian Institute of Technology (IIT) Kharagpur, INDIA

Petrofabric analysis of deformed rocks using Anisotropy of Magnetic Susceptibility (AMS) - Applications in Structural Geology

Through this lecture, I will highlight the robustness of AMS in Structural Geology, particularly in tectonically deformed rocks that do not develop visible foliation and/or lineation. The usefulness of AMS data in identifying the principal axes of the strain ellipsoid followed by its importance in establishing the kinematic reference frame for the preparation of oriented thin sections will be highlighted. Examples will be shown where SEM-EBSD studies have been integrated with AMS data to decipher the sense of shear and relate the same with regional tectonics. Geological examples will be presented where superposed folding has been inferred in rocks based on AMS data. Moreover, the importance of AMS in fabric analysis of granitic rocks, vorticity quantification and establishing time-relationship between granite emplacement, fabric development and regional deformation will be presented.



EBSD of gneiss in K_1K_3 section (kinematic reference frame from AMS)