



Crystal Interface Lab. Seminar Series

“Recent research into grain/twin boundary mediated plasticity” Prof. Dmitri A. Molodov

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Recent research into grain/twin boundary mediated plasticity. The results of experimental measurements of grain (and twin) boundary migration coupled to shear deformation will be reviewed. Modern technique for in-situ observations of stress driven grain boundary motion in bicrystals utilizing the orientation contrast of adjacent grains revealed by a secondary electron detector in a scanning electron microscope will be presented. The extended geometric model of boundary migration - shear coupling, based on the analysis of the Frank-Bilby equation for the dislocation content of symmetric tilt grain boundaries, will be presented and discussed. Furthermore, the results of experiments with differently oriented magnesium single crystals subjected to plane strain compression will be demonstrated. The role of the anomalous twinning in the plasticity of magnesium will be addressed.

Main meeting room at Institute of Engineering Innovation

工学部総合研究機構 9号館 1階 大会議室

2019, March 6th (Wed) 15:00~16:30