Associated Project 3

3D in-situ study of subgrain development in deformed halite (NaCl)

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Project overview

In this associated project we will study in-situ and in 3D the substructure dynamics of a pre-deformed NaCl polycrystal during heating. We expect nucleation, subgrain structure changes such as subgrain growth and strain induced grain boundary migration to take place. During static heating it will be possible to observe changes in the substructure and grain structure in three dimensions using high resolution X-ray diffraction at the European Synchrotron Radiation Facility (ESRF) facility in Grenoble, France. With the help of the group around AP3 the experiments will be conducted, analysed and interpreted by staff of IP1 and IP6.

Results from the combination of numerical simulations (IP1 and IP6) and this experiment will help us to advance our understanding of nucleation and substructure dynamics during heating of a pre-deformed sample in three dimensions.