



## **Pattern formation on sodium chlorate crystal surfaces under stress**

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In the Earth's crust, rocks are often non-hydrostatically stressed, and the rocks may contain aqueous solutions or melts at grain boundaries and in pores between the minerals. Under these conditions, stress-driven recrystallization of ionic crystals is an important mechanism of creep and compaction of rocks in the Earth's upper crust.

We will present the image analysis of the surface of an in-situ deformation experiment on a sodium chlorate crystal in an aqueous solution. The samples has an terrace/step structure that evolve in time. Three different scaling regimes of the step-step spacing was observed in the experiment. The image analysis provides a mean to follow specific surface structure and gives additional insights into the evolution of the surface.