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## The DR-D experiment in the Mont-Terri rock laboratory, heterogeneity of the Sandy Facies of Opalinus Clay across scales, from seismic surveys to radionuclide diffusion

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Clay rocks are investigated as potential host rocks for high-level nuclear waste (HLW) repositories in many countries. The Sandy Facies of Opalinus Clay (SF-OPA), as accessible in the Mont Terri rock laboratory, exhibits a pronounced heterogeneity, which is as well expected for lower cretaceous clay rocks, that are among the potential host rocks for the German HLW repository.

Aim of the DR-D experiment is to characterize the heterogeneity of SF-OPA on the m-cm scale via seismic tomography and borehole seismic characterization. Borehole logging and ex-situ drill core characterization provide information on rock heterogeneity on smaller scales.

Within the area, characterized by seismic tomography, a radio-tracer diffusion experiment will be set up, with the aim to correlate the observed diffusion behavior with the heterogeneous rock structure.

The first drilling campaign took place in May 2021. The seismic tomography survey of the experimental area was performed in October 2021. Processing and analysis of the seismic data, as well as drill core characterization are currently underway.

In this contribution we present the general concept and layout of the DR-D experiment, as well as first results.

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