

EGU2020-8091

<https://doi.org/10.5194/egusphere-egu2020-8091>

EGU General Assembly 2020

© Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.



Slates: a potential rock type to extract geothermal energy from the underground?

Johannes Herrmann¹, Erik Rybacki¹, Wenxia Wang¹, Harald Milsch¹, Bianca Wagner², and Bernd Leiss²

¹GFZ German Research Centre for Geosciences, Geomechanics and Scientific Drilling, Potsdam, Germany

(johannes.herrmann@gfz-potsdam.de)

²Geoscience Centre of the Georg-August-University of Göttingen

Commonly used host rock reservoirs for Enhanced Geothermal Systems (EGS) are composed of granite, as they display highly conductive and sustainable fracture networks after stimulation. However, considering the large amount of metamorphic rocks in Europe's underground, these rock types may also show a large potential to extract geothermal energy from the subsurface. Within the framework of the European Union's Horizon 2020 initiative 'MEET (Multi-Sites EGS Demonstration)', we are conducting fracture permeability experiments at elevated confining pressures, p_c , temperatures, T , and differential stresses,