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## Electric Self-Potential Measurements during Fluid Injection at the Bedretto Underground Laboratory

**Nadine Haaf**<sup>1</sup>, Jeroma Azzola<sup>1</sup>, Liliana Vargas Meleza<sup>2</sup>, Marian Hertrich<sup>2</sup>, Valentin Gischig<sup>2</sup>, Mathilde Wimez<sup>2</sup>, Antonio Pio Rinaldi<sup>2</sup>, Fridolin Straub<sup>2</sup>, Maren Brehme<sup>2</sup>, Domenico Giardini<sup>2</sup>, Francisco Sorbeto<sup>3</sup>, and Andreas Alcolea<sup>3</sup>

<sup>1</sup>Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany,

<sup>2</sup>ETH Zurich, Zurich, Swiss

<sup>3</sup>Geo-Energie Suisse, Zurich, Swiss

Self-potential (SP) monitoring was implemented at the Bedretto Underground Laboratory as part of the BEACH experiment to complement multi-parameter observations during fluid-injection tests. Continuous SP measurements have been conducted since the end of October 2025, with data acquired so far covering the period until mid-December, and monitoring planned to continue throughout the current year.

The SP setup consists of nine non-polarizable Pb/PbCl<sub>2</sub> electrodes installed along the tunnel wall and within one borehole in the Mesozoic Crystalline Fault Zone. Tunnel-wall electrodes were placed in shallow drill holes and embedded using conductive contact material to ensure stable long-term coupling to the rock. A single electrode was installed in a 50m borehole to provide additional depth sensitivity. All electrodes were connected to a CR6 data logger, recording continuous SP time series with a sampling interval of one value per minute.

The recorded data span different operational phases, including background conditions as well as cold and warm water injection cycles and associated shut-in periods. This contribution presents an initial overview of the acquired SP dataset.

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