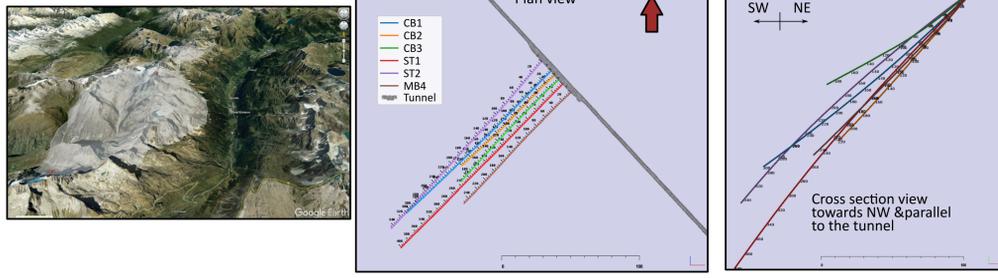


# Structural characterisation of the Bedretto Underground Laboratory (BULG)

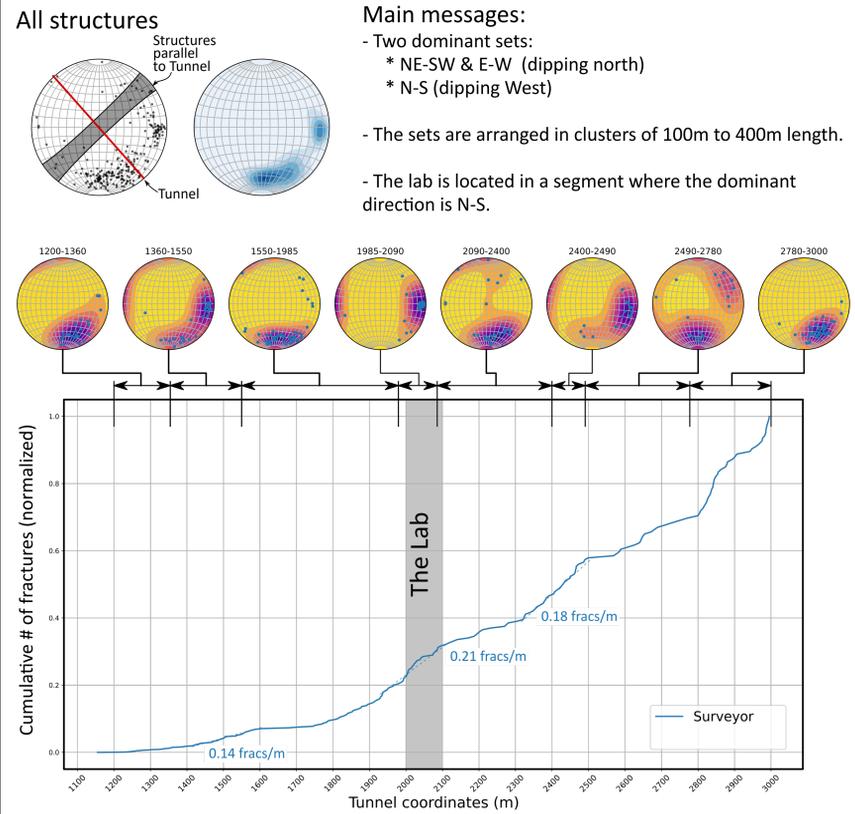
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<sup>1</sup>Geo-Energie Suisse AG, Reitergasse 11, 8004 Zürich

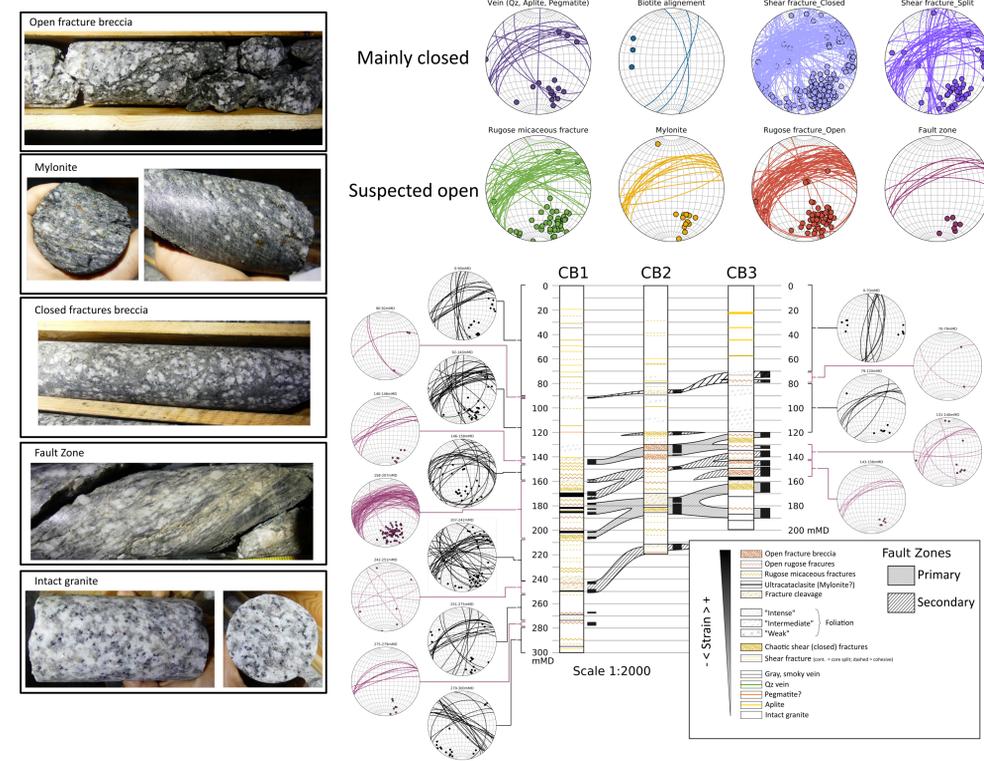
## The Lab



## Structures in the tunnel wall



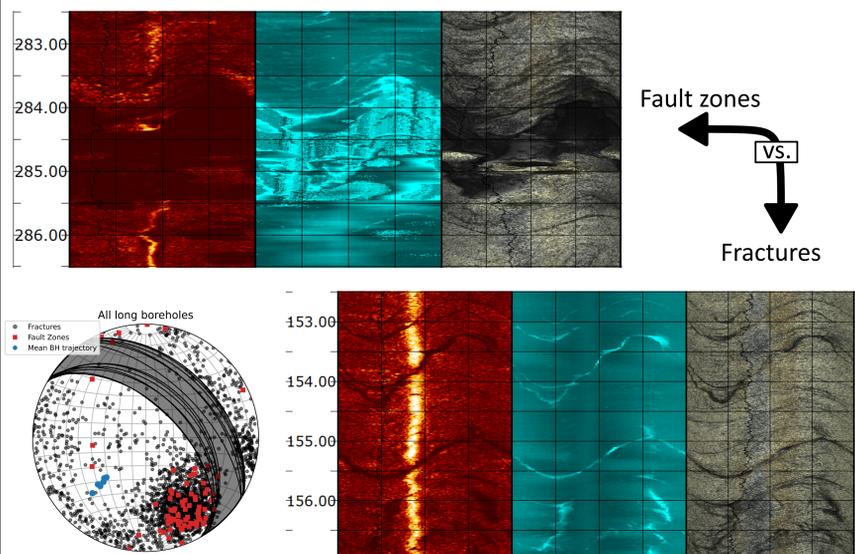
## Boreholes - Core logging



Main messages:

- Same orientation sets as identified in the tunnel.
- High strain (and overall open) structures are oriented NE-SW.
- Shallower 50-100m section shows scarce structures and N-S orientation as in tunnel.

## Boreholes - Image logging

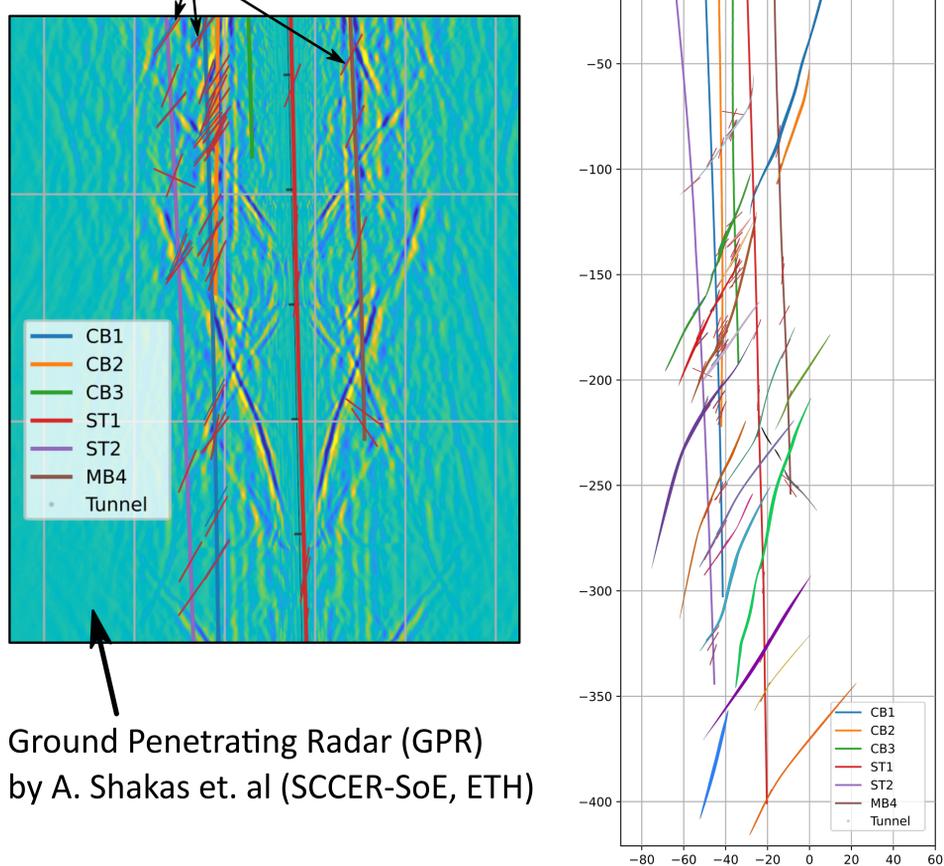


Main messages:

- Two categories were identified and picked on image logs:
  - \* Fault zones: Several cm thick, internal structures sometimes visible, considerable borehole damage.
  - \* Generic fractures: Only some mm thick, borehole maintains its cylindrical shape.
- Fault zones are oriented NE-SW (only few exceptions)

## Interpretation & Model

Structures picked on image logs



## Conclusions

- The two main structural sets are 1) NE-SE to EW and, 2) N-S.
- Different structural orientations are segregated in distinct clusters well segregated in space.
- The clusters seem to extend over distances of several hundreds of meters (100m-400m). N-S clusters are probably smaller than those oriented NE-SW.
- Main structures are oriented NE-SW and dip to the NW.