

Positioning the zircon fission-track and micro-Raman partial annealing zones: keys for thermochronology and the understanding of zircon material-properties and hydrocarbon maturity

Institute of Rock Structure and Mechanics

Duration: 2020 – 2022

Aims of the project:

- positioning the geological zircon fission-track partial annealing zone

No other borehole in the world reaches the temperatures where geological annealing of fission tracks in zircon can be observed in situ.

- positioning the zircon (Raman) radiation damage partial annealing zone

Zircon grains from the KTB related their damage (Raman) to their geological ages, downhole temperatures, and damage accumulation rates (U, Th-content).

- understanding radiation damage effects on the zircon fission-track system

Measuring the fission-track lengths, their densities and the radiation damage in individual grains, and even at the sub-grain scale, in geological samples.

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