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Absorption muographic challenges on the surface

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Absorption muography has many applications, but it can typically be divided into two categories based on the detector location: underground or surface measurements. The latter case started in volcanological application, but nowadays multiple applications arise besides basic muographic researches e.g., archaeology, and building structural imaging. In my presentation, I would like to briefly summarize the MWPC-based Muography Observation System (mMOS) at the Sakurajima volcano and the plans of installation at Etna volcano as well (Budapest-Catania-Tokyo collaboration), furthermore I would like to show an imaging resolution measurement method at the Budapest Fairy Rock, and give an overview on different flux calculations, systematic errors, lead wall background suppressions, and challenges of the surface measurements.

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