Geophysical Logging of Crust-Mantle boundary at Oman Ophiolite

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The boundary between the crust and mantle is a horizon that human being can reach in the Earth interior. The nature of this surface has been proposed from viewpoints of petrology, geochemistry and geophysics, and the answer needs to wait until future scientific drilling.

The Samail ophiolite exposed in Oman is one of most well-known surface exposures of the exhumed lowest part of the oceanic crust and upper part of mantle.

The Oman Drilling Project (OmanDP) drilled 12 holes at 7 sites in this ophiolite from 2016 to 2018, and has conducted a comprehensive borehole geophysical survey as logging operation in most of these holes in 2017 and 2018. The data acquired include: electrical resistivity, spectral gamma ray, magnetic susceptibility, full waveform sonic, optical / acoustic / resistivity borehole wall imaging. The extensive logging operation also includes high-definition spectroscopy measurements that contribute to further geochemical investigations. The outline of these datasets and our preliminary analysis will be presented.

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