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Formation and modification of oceanic lithospheric mantle inferred from the Fizh mantle section in the Oman ophiolite

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The Oman ophiolite is considered as a paleo-oceanic lithosphere that formed at Neo-Tethys ocean ridge followed by detachment and obduction on the Arabian continent during the collision between Eurasian plate and Arabian-African plate. The ophiolite is divided into crust and mantle sections at Moho that is recognized as lithological boundary in the field. We have studied the Fizh mantle section over the last 11 years in terms of structural and geochemical variability as results of formation and modification of oceanic lithospheric mantle. On the basis of systematic study we found that the mantle section does not consist of harzburgite and dunite of uniform compositions but rather its structure and compositions systematically change with relation to depth from the Moho, ridge segment structure and distribution of thrust zones. In this talk, we summarize the results of the Fizh mantle studies to show the evolution of oceanic lithospheric mantle recorded in the Oman ophiolite.