
Mantle plagiogranites and albitites as "modern" analogues of the terrestrial Hadean, and possibly Noachian, felsic protocrust on Mars

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Résumé

The plagiogranites and albitites outcropping in the mantle sections on the Earth (Oman ophiolites and Pyrenees massifs in France) represent a "modern" example of felsic magmas and high-temperature fluids (rich in Si, Al and Na) coexisting with an ultramafic host. They can be considered, *mutatis mutandis*, as an analogue of the terrestrial Hadean, and possibly Noachian, protocrust on Mars (Borisova et al., 2021; 2022).

Our project PLAGIOGRAN (PNP 2022 - 2023) makes it possible to progress in our understanding of the formation of the felsic rocks in the Earth's mantle and to better understand the significance of the dating provided by these rocks which may have been formed under conditions of high temperature. Additional experiments and geochemical data on the terrestrial samples will be used to understand the evolution of the ancient primitive proto-crust. More precisely, the physicochemical and geological conditions of preservation of ancient zircons in Hadean rocks and terrestrial felsic rocks can be established on the basis of new experiments in the pressure gradient (project MISTI 2022 - 2024).

References:

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