



## **Preliminary results on the lithosphere and upper mantle below the greater Alpine region from P and S Receiver Function calculated on AlpArray data**

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We apply the P and S receiver function (RF) techniques to investigate the lithosphere and upper mantle structure below the greater Alpine region. The RF are calculated on teleseismic waveforms recorded by a set of broadband stations part of the AlpArray experiment. The P and S RF techniques give complementary information on the mantle and can be inverted jointly to calculate a 1D velocity model below each station down to  $\sim 300$  km depth. We observe the Moho (Pms), P410s, P660s signals and compare them to the standard arrival time (difference between the arrival times of the converted wave and the mother wavelet). Similarly, keeping in mind that the P and S RF signals are converted at the transition zone below different areas, we analyze the Smp (Moho), S410p and S660p signals. Our scientific question regards the existence of possible non-standard values of the arrival times of signals converted at the transition zone and of lateral changes of these arrival times. These observations are useful to investigate possible variations in the mantle transition zone thickness, with implications in the role of temperature and composition at this depth. We show preliminary results from this analysis and compare them to other independent observations for this area that were previously published.