

Vp/Vs variations within the fault plane - tracking the fluids

Martin Bachura (1) and Tomáš Fischer (1,2)

(1) Charles University in Prague, (2) Institute of Geophysics, Czech Academy of Science, Prague

VP/VS ratio reflects the rheological properties of the medium and its values and variations might be a good indicator of the fluid presence in an analyzed area. We analyzed spatio-temporal variations of the velocity ratio within selected sub-clusters of the 2014 West Bohemian (Czech Republic) earthquake series using double-difference modification of Wadati method to the arrival time differences measured by cross-correlation technique.

We observed significant VP/VS ratio variations - from 1.59 to 1.73. Spatial and temporal distribution of the velocity ratios is well explained as a result of the fluid saturation of a fault during the rupturing process.