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# Shear wave identification near by shallow seismic source

Jan Vilhelm (1,2), Vladimír Rudajev (2), and Roman Živor (2)

(1) Charles University in Prague, Faculty of Science, Institute of Hydrogeology, Engineering Geology and Applied Geophysics, Prague, Czech Republic (vilhelm@natur.cuni.cz), (2) Institute of Geology, Academy of Sciences of the Czech Republic, v.v.i., Prague, Czech Republic

Interference of P- and S-waves occurs during the first period of P-wave when the shallow seismic measurement is realized near the seismic source (the distance is less or equal to one P-wave wavelength). Polarization analysis method (particle motion) is suitable for the determination of S-wave arrival time in these conditions. Three component geophones are usually used in this case for the registration of seismic waves generated by a hammer blow. With regard to P- and S-waves polarization it is advantageous to orientate the three component orthogonal system of geophones so that separate components make an angle of 35.26° to horizontal plane (Galperin geophone configuration). Azimuth angle between separate components is 120° in this case. This configuration insures the equivalent gravity force moments affect all the three components in the same way. It is in the contrast to the standard arrangement of the three component geophone with two horizontal and one vertical component. The inclined arrangement results in equal frequency responses for all the three components. Phase and amplitude characteristics between the components should therefore be the same. This facilitates the S-wave arrival detection. An example of application of this method to the determination of seismic wave propagation velocity anisotropy is presented.