



## **Rotational seismic oscillations, analyzed in various frequency ranges**

**K.P. Teisseyre**

Institute of Geophysics, Polish Academy of Science, Warszawa, Poland, kt@igf.edu.pl

Rotational waves, which are components of seismic field, bear information on processes in the seismic source (as well as some information about propagation conditions). Two components of these waves are distinguished: the rotation or spin and the twist. First is isotropic oscillation in given plane, the second is a constituent of shear deformation with different swings at the perpendicular axes in given plane. Twist represents oscillations of the off-diagonal shear axes. There are different methods to detect rotational waves, or recorded by strainmeters, rotation seismometers, Sagnac interferometers or others, or to draw them out of data from the suitable array of seismic sensors. Here, data from rotation seismometers are presented: spin and twist, as well as sequences of certain indices which show relation between energy portions comprised in these two waves. All analysis has been done in several parts of whole frequency spectrum. An attempt is shown to relate rotational wavelets, and the mentioned indices, with processes in focus during the earthquake and even before it, during preparatory stage in which compression and shear forces start to generate minute motions and vibrations.