1096-31-1053 **Willi Freeden*** (freeden@mathematik.uni-kl.de), Prof. Dr., 67653 Kaiserslautern, Palatinate, Germany. *Multiscale Regularization in Seismic Tomography.*

The aim of seismic tomography is to extract specific information about the composition and the disturbances of the bedrock about available data (seismograms), which arises from the scattering of seismic waves on boundary layers or from the conversion of certain wave types. An essential goal is to transfer the signal, which results from integration of the wave equation under the expectation, that designated properties of the rock like the velocity field can be interpreted from the transformed signal in a better way.

In this talk, based on the regularization of Green's functions (fundamental solutions), new wavelet techniques for a detailed band-pass filtering of (acoustic as well as elastic) seismic phenomena are formulated to get a local understanding and interpretability of scattered wavefield potentials. (Received September 12, 2013)