

1125-65-2061      **Laurent Demanet\***, 77 Massachusetts Ave, 2-247, Cambridge, MA 02139. *Phase tracking for model reduction of high-frequency waves.*

Interpretation of seismic data in terms of coherent atomic events can be formulated as a hard, nonconvex optimization problem. The same is true of the interpretation of the solution of a Helmholtz equation in terms of elementary phases from geometrical optics. I will present a method that empirically finds the global minimum of this functional in the case of simple synthetic seismic records, even when events cross. The idea is to slowly grow a trust region for phases and amplitudes in a way that reminds of continuation, or tracking. I will also discuss applications to low-frequency extrapolation and full waveform inversion. Joint work with Yunyue Elita Li. (Received September 19, 2016)