Source investigation of small events using pseudo-spectral deconvolution technique

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The new pseudo-spectral approach to study source time functions of small events in the framework of the Empirical Green Function is presented. The method consists in a decomposition of the source time function into a set of suitable chosen base functions with decomposition coefficients estimated by a Genetic Algorithm based optimizer. The method, being essentially nonlinear, is compared with an another nonlinear source time function deconvolution technique, namely with the Projected Landweber technique by applying both algorithms to real seismic events. A preliminary anylysis of stability and accuracy of the method is covered.