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On the Realtime Monitoring of the Long-period Seismic Wavefield

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Abstract

A possibility of monitoring the long-period seismic wavefield in realtime is suggested. The seismic wavefield below 0.1 Hz may be consistently modeled by the earthquake activity field defined by a point source moment tensor on 10 km-mesh grid points. With the current level of personal computers, it should be possible to perform moment tensor inversions for all the mesh points to find the best moment tensor every second. A sparse regional broadband seismometer network appears suffice to perform such realtime monitoring, which may eventually enable us to predict the short-period ground motions in realtime as well.