

Temporal variations of crustal structure in the source region of the Noto Peninsula Earthquake with passive image interferometry

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The passive image interferometry technique is applied to the continuous seismic waveform data obtained around the source region of the 2007 Noto Peninsula Earthquake, Japan. We computed the autocorrelation function (ACF) of high-pass filtered seismic noise portion recorded with each seismometer at several seismic stations for each one day. In some stations, comparing each one-day ACF, we recognize temporal evolutions of the ACF, which are interpreted as the change of seismic velocity structure in the volume considered. Sudden changes of ACF are detected with the occurrence of the main shock in a station DP.NNJ (epicentral distance 36km). Gradual changes of ACFs in the preceding two weeks of the main shock are also recognized in DP.NNJ and DP.HRJ (epicentral distance 45km), which would be of great importance for understanding the stress state before occurrence of earthquakes.