

Temporal change of seismic-wave velocity associated with the 1998 northern Iwate earthquake (M6.1)

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We analyzed seismic waveform data excited by three artificial chemical explosions conducted before and after the 1998 northern Iwate Prefecture earthquake (M6.1) by using the cross-spectral method. Phases of seismic coda waves recorded at five stations deployed around the hypocentral area show that the seismic-wave velocity decreased 0.3-0.5% during a period including this earthquake occurrence. On the other hand, seismic velocity change is not found for the waveform data of two explosions conducted after the 1998 northern Iwate Prefecture earthquake. This observation strongly suggests that the velocity change took place associated with the occurrence of M6.1 earthquake.