

Continuous monitoring of propagation velocity of seismic wave using newly developed seismic source (ACROSS)

ryoya ikuta[1], Koji Miyakawa[2], Atsushi Saiga[3], Kenji Moriguchi[2], Takahiro Kunitomo[4], Koshun Yamaoka[5]

[1] Earth and Planetary Sci. Nagoya Univ., [2] Earth and Planetary Sci., Nagoya Univ, [3] Nagoya Univ., [4] JNC, [5] RC. Seis. & Volc., Nagoya University

<http://www.eps.nagoya-u.ac.jp/epp/across/>

Seismic velocity are continuously measured for 14 months using a newly developed vibration sources named ACROSS. The purpose of this study is to monitor temporal variations of propagation properties of seismic waves in the crust. The system uses precisely controlled sinusoids, which gives a best way to achieve high signal-to-noise ratio without destroying surrounding ground. The sources are deployed near Nojima fault. The emitted elastic wave is received with seismometers deployed at the bottom of 800m and 1700m deep boreholes under the sources. We ran the system from January 2000 to March 2001 and measured temporal variation of seismic velocity. The results certified that ACROSS is suited for long-term measurements.