[EJ] Evening Poster | S (Solid Earth Sciences) | S-SS Seismology

# [S-SS10]Seismic wave propagation: Theory and Application

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Seismic wave propagation provides rich information of earth's heterogeneities and the excitation sources. In order to extract the information, integrated studies are needed among mathematical/numerical studies based on the wave theory, miniature physical experiments using rock specimens, and practical data analyses.

Furthermore, it is greatly beneficial to conduct comparative studies of various kinds of waves, such as elastic, acoustic, traveling ionospheric disturbances, and oceanic waves. This session widely invites presentations about the theories and applications related to seismic and other geophysical waves.

# [SSS10-P04]Array analysis on the temporal change of seismic velocity structure detected with ACROSS signal in Sakurajima volcano, Japan.

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We detected a temporal change in propagation property of seismic wave using seismic array associated with a magma intrusive event on 15 August 2015 of Sakurajima volcano, Japan. We performed an array signal processing for the signal of an accurately controlled seismic source (ACROSS), that is located to the northwest of the summit, for two seismic arrays deployed by NIED. The two array, SKN and SKE, are located to the northeast and east of the summit, respectively. For the array analysis we used semblance analysis for three periods, 23 July 2015 to 8 August 2015 (Period 1), 9 August 2015 to 7:00 of 15 August 2015 (Period 2) and 9:00 of 15 August 2015 to 19 August 2015 (Period 3). In the array data large difference is observed between Period 2 and 3, although little difference is observed between Period 1 and 2. The large difference is apparently caused by the intrusive event of Sakurajima volcano on 15 August 2015. The change associated with the intrusive event does not appear in the initial arrival at SKN but appears in the later part, indicating change in the subsurface scattering nature. The scattering point can be estimated assuming single scattering using semblance data. On the other hand SKE shows scattered difference between Period 2 and 3 indicating distributing subsurface scattering points.