

S205-001

Room: 101A

Time: May 14 13:45-14:00

NECESSArray: A large-scale passive broadband seismic experiment in the northeastern China

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NorthEast China Extended SeiSmic Array (NECESSArray) is a passive broadband seismic experiment aiming to reveal the seismic structure beneath the northeastern China, where the Sino-Korea craton and unusual volcanism in the continent are tectonically quite interesting. The structure of the upper mantle is the main target of NECESSArray to clarify its tectonic roots and its relation to the stagnant slab beneath this region. This experiment runs under the collaboration of scientists from Japan, China, and USA. One hundred twenty mobile stations are planned to be deployed for two years, and 140 permanent stations of Chinese regional seismic networks will be jointly analyzed. This large-scale and dense seismic experiment is the first of this kind in this geophysically interesting area, and thus is an observational frontier in seismology. Moreover, the experiment will play an important role to image deep mantle structures beneath the western Pacific where the largest cold and hot superplumes are mutually interacting. In this talk, we will introduce the observational plan and the scientific objectives of NECESSArray.