



Pacific Array (Transportable Broadband Ocean Floor Array)

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Based on recent developments on broadband ocean bottom seismometry, we propose a next generation large-scale array experiment in the ocean. Recent advances in ocean bottom broadband seismometry¹, together with advances in the seismic analysis methodology, have enabled us to resolve the regional 1-D structure of the entire lithosphere/asthenosphere system, including seismic anisotropy (azimuthal, and hopefully radial), with deployments of ~15 broadband ocean bottom seismometers (BBOBSs). Having ~15 BBOBSs as an array unit for a 2-year deployment, and repeating such deployments in a leap-frog way or concurrently (an array of arrays) for a decade or so would enable us to cover a large portion of the Pacific basin. Such efforts, not only by giving regional constraints on the 1-D structure beneath Pacific ocean, but also by sharing waveform data for global scale waveform tomography, would drastically increase our knowledge of how plate tectonics works on this planet, as well as how it worked for the past 150 million years. International collaborations is essential: if three countries/institutions participate this endeavor together, Pacific Array may be accomplished within five-or-so years.