

Seismicity beneath stable oceanic plate

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Stable oceanic plate has low seismic activity generally. Real tectonic deformation is also stable? To survey this topics, high quality and long-term observation. Pacific21 broadband seismic network deploys stations in Micronesia area. At present five islands station are under operation. Two of all have already telemetered to our data center via internet connection and transfer to other organization and institute. In this year new telemeter station (station code: CHUK) is completed successfully. Chuuk (Truk) island locates on old oceanic plate about 900-1,000km southeast of Mariana trench and Guam. CHUK station locates inside deep tunnel made in more than 70 years ago, WWII era. The site condition is fine in basalt mountain, under stable temperature and on rigid floor. We deployed STS-2 broadband sensor in sensor room, high-resolution data logger and stable power supply system. CHUK station will contribute monitor and location of earthquake around Mariana trench and outer rise area.

Though CHUK station locates in small oceanic island and records strong ocean microseism, background noise level is lower level than standard model. CHUK station is excellent site to monitor including small local earthquake. CHUK station operates for about four years. We review continuous data and pick up local regional seismic events. Not only outer rise region but also Chuuk island area and hidden tectonic zone has active seismicity. By trial analysis, depth of these seismic events is beneath 20km. It implies stress concentration in oceanic plate and its deformation.

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