

Repeated observation of seafloor crustal deformation at Kumano and Suruga regions, Japan

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We have developed a system for observing seafloor crustal deformation using kinematic GPS observation technique and acoustic ranging. We started long-term monitoring of seafloor crustal deformation at Kumano basin and Suruga bay, Japan, in 2004. We succeeded to observe a co-seismic horizontal displacement due to the Off-Kii earthquakes on September 5, 2004.

We performed the repeated observation five times at both Kumano basin and Suruga bay in 2006. The repeated observation at KMS station in Kumano basin have revealed that the long time repeatability of our system is about 3 cm in the two horizontal components, which is universal at Kumano Bay region.

When we reject the results with worse distribution of the acoustic ranging points, 3 cm westward displacement vector is derived for one year observation, which is consistent with the result from GEONET observation.