Distribution of the quake in metropolitan area by MESO-net

*Shin'ichi Sakai¹, Shin Aoi², Takeshi Kimura², Tomotake Ueno², Naoshi Hirata¹

1. Earthquake Research Institute, University of Tokyo, 2. National Research Institute for Earth Science and Disaster Resilience

MeSO-net is a seismic observation point which consists of three accelerometers installed in perforated bottom of depth 20m. It consists of 301 points and they are observed continuously. On March 11, 2011, 249 points are established, and every observation record was obtained. An observation point interval in Tokyo which are the center of the metropolitan area are 2-3km. The quake should not have large difference because it's more than 100 km away from the epicenter, but the difference which can't be explained was judged by the attenuation effect of the distance. It will be caused by the difference between the topography and the soil structure, but There are a lot of unclear points about the reason yet. When the distribution of quake by large earthquake is presumed, it's necessary to consider this heterogeneity of quakes. Waveforms recorded by MeSO-net were considered in detail. They were contrasted with the topography and foundation. In more dense observation, we have developed a method of recognition and estimation of a high-density quake.

Keywords: MeSO-net, heterogeneity of quake, recognition and estimation of a high-density quake