

Pore-size zonation of submarine landslide sediments of Northwest slope on Daini-Atsumi knoll near Northeast Nankai Trough; on the basis of AUV survey data, 3D seismic data, and LWD logging data

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We, JOGMEC, had been carried out detailed survey using Autonomous Underwater Vehicle (AUV), to obtain geological information of surface sediments, and to make high resolution-bathymetry map of northwest slope on Daini-Atsumi knoll. We had found several liner structures that could be interpreted as faults on the high resolution-bathymetry map. However, we could not distinguish their continuity with depth from sub bottom profiler (SBP) records of AUV. Thus, we carried out analysis of the result with combining to three-dimensional seismic data, which contained information of tectonic structures in deeper depth, and we finally found several faults indicated as liner structures placed on eastern side of study area. Then, we found that acoustic blanking layer and acoustic translucent layer observed on SBP records were corresponded with two surface sediments, which were distinguished with remarkable differences of T2 distributions of NMR logging data. Moreover, depth of anomalies of T2 distributions were corresponded with deformation structures depth observed on resistivity image. Hence, we could obtain porosity (density) and pore-size distribution of deformation zones, which were useful to estimate permeability. We will report these data to describe features of the submarine-landslide sediments.

Keywords: Submarine landslide, AUV, 3D seismic survey, Sub Bottom Profiler, NMR logging data