

Sub-bottom profiling and side-scan-sonar record by DAI-PACK system during Hyper-Dolphine/NT08-09 cruise off JOETSU, NIIGATA, JAPAN

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During the NT08-09 cruise, Natsushima/Hyper-Dolphin(ROV), (Apr. 29, 2008 - May 21), in Toyama Trough, Japan Sea, micro topography and shallow sub-bottom structure studies using deep-sea acoustic tools, DAI-PACK (Deep-sea Acoustic Imaging Package) for 2 days, in 2 points.

After the arrival to the survey area on May 5th morning, box survey in the southern part of the Joetsu (HD#829) was performed.

The day after the next day another box survey in the northern part (HD#831) of the Umitaka Spar was done.

Eplaination of the used device is omitted here, because it was reported last year.

The area in the lower part of the image of an example of mosaic map from side-scan-sonar images of HD#829 shows rolled moco-topographical features of the long oval form.

A cliff of several m high is observed around the center of the third survey line from the south of the sub-bottom profiling record.

The part of the strong bottom reflection is shifted to rather eastern area on the sixth example survey line from the south.

A rough mosaic image of the whole area was produced from the submarine video images which continued to the piston corer site which had been lost during former KY05-08 sampling cruise from the point where the hydrate block was found during the HD#762 dive of the NT07-20 cruise in the last year.

Although several number of data about the positions of the hydrate block and the lost piston corer was known by SSBL acoustic positioning system, they are scattered in several 10 m area, meaning different positions among cruises. Rough estimation of the distance between the positions was performed now, but identification of hydrate block site and corer site is still difficult on the mosaic side-scan-sonar map.