Side-scan-sonar and sub-bottom profiler records at the eastern part of Sagami Bay

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The distribution of the spot-shaped structure of 150m diameter of the strong back scattering dispersion is confirmed with the submarine sound image of IZANAGI side-scan-sonar used in 1995 at the east of Misaki Sea Knoll.

Submarine observation by Navigable Sampling System (NSS) used in 2004, and sampling revealed that the cause of a strong group of back dispersion points might be the concentration of sedimentary rocks of bigger size.

The investigation by side-scan-sonar and sub-bottom profiler remodeled for deep sea were done in the NT05-19 cruise of Hyper-dolphin in the eastern part of the Sagami Bay in the morning on Nov. 14, 2005 and the afternoon.

The details of the device and data processing

Side-scan-sonar (Sportscan):halh range 30m, 2 times of about 2-hour, 45MB +58MB.

Sub-bottom profiler (StrataBox):range 20m, 2 times of about 2-hour, 22MB +27MB.

As for the record of sub-bottom profiler, the progress speed of Hyper-dolphin was supposed 0.5 knot, and combined with the depth data of Hyper-dolphin on the time base, and a depth section was shown.

It confirmed that places were dotted with big rocks of the m size in an image of side-scan-sonar. When the size of boulders are so big, they are shown as bright points in foward looking sonar recoerd of Hyper-dolphin as well. It isn't so clear with side-scan-sonar though it knows that it lies scattered very much in the submarine observation by the television camera boulders of several ten cm and under, too.

The number of boulders in all directions 10m is several, and it isn't clear whether the strong back dispersion point of the diameter which is near by 150m can be explained with this fully.

It confirmed that the reflection which sloped in submarine several m from the record of sub-bottom profiler. It can't be seen to deeper part though it confirms that a more lower stratum can be seen in the part where inclination is a little steep from the viewpoint of geographical features. It may be the area where sand rate of the sediments is high and which is hard to permeate from the first, but main reason is that the transducer's output is weak and with high frequency of 10kHz, which is a little too high as an ordinary sub-bottom profiler.