

Approach to development of electrical and magnetic exploration tools for seabed resources near the sea floor

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Detailed information on structures under seafloor is necessary for the estimation of seabed resources of hydrothermal deposits, methane hydrate, and so on. Although advantages of geophysical exploration near sea floor are expected for the seabed resources survey, the method has not been well-established. From this point of view, we start a project to develop new tools of electrical and magnetic exploration for seabed resources near the sea floor with a budget from MEXT. In this project, we will carry out research and development regarding measurement of the magnetic field with high resolution and high sampling rate, electric exploration with accurately controlled source signals, electric exploration tools for shallow and deep targets, versatile instruments of electrical and magnetic explorations with multi-platforms (deep-tow system, ROV and AUV), comprehensive analyses of electric, magnetic, acoustic and thermal data, and so on. We will introduce the outline and the current state of the project in this presentation.