

## 南マリアナトラフ熱水活動域の深海地磁気異常

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### Near-bottom magnetic anomalies around hydrothermal sites in the southern Mariana Trough

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Detailed magnetic anomaly features of the seafloor are revealed by near-bottom magnetic survey. The measurements of three-components of the geomagnetic field by using AUV URASHIMA were conducted during the YK-09-08 cruise in the southern Mariana Trough in order to detect signals of hydrothermally altered rocks. Four three-axis fluxgate type magnetometers were attached on AUV URASHIMA. Vector geomagnetic field were successfully obtained along the all dive tracks around hydrothermal sites in the southern Mariana Trough with the information of the vehicle's attitude. Total intensities of geomagnetic field by the overhauser magnetometer were also conducted, but the data are only collected along almost E-W oriented observation lines due to the sensitivity of the sensor.

The distribution of crustal magnetization were estimated using the downward component of magnetic anomalies by the inversion method. The distribution of low crustal magnetization are almost coincide with the area around hydrothermal vent sites from on ridge to off ridge area, and most likely indicate signals of hydrothermally altered rocks. The distribution of low crustal magnetization on ridge are almost parallel to the strike of ridge axis implying tectonic control of hydrothermal vent sites. Moreover, possible locations of unknown hydrothermal vent sites are also deduced from the distribution of low crustal magnetization.