Geomagnetic dipole anomalies along the Kurosegawa Tectonic Zone -Geomagnetic properties around Engyou-ji, Shikoku-

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The Frontier Research Program for Subduction Dynamics (now reorganized in Institute for Frontier Research on Earth Evolution, abbreviated as IFREE) has investigated the subduction history of the Nankai Trough during cooperative experiments onland in Shikoku and in the northern Shikoku Basin, using the R/V Kairei from 1997. In 1999 through 2001 cooperative expedition, 170 OBSs were deployed along seismic lines totaling 500 km in length, to reveal the crustal structure beneath the Nankai trough and Shikoku. The track lines extended across the Kurosegawa Tectonic Zone, which is composed of ultramafic rocks with an associated high magnetic dipole anomaly. More than 100 ultramafic rock samples were collected along Route193 in the Kisawason, Sakashu and Engyou-ji areas within the Kurosegawa Tectonic Zone, and along the Asemigawa River, which is located within the Sambagawa metamorphic belt. Magnetic intensity, sonic velocity, density and petrologic properties were subsequently measured on 100 core specimens. The localities of a Bouguer gravity anomaly, geomagnetic dipole anomaly and an apparently aseismic area were found to coincide with the distribution of serpentinite in the Kurosegawa Tectonic Zone.