

A preliminary report of subsurface structure surveys around Kozushima and Miyakejima

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To reveal a subsurface structure around Kozushima and Miyakejima, JAMSTEC conducted MCS survey and seismic refraction survey using OBS. The data were acquired along a 120km long NW-SE oriented profile crossing the active earthquake swarm region. The preliminary results are 1) strong reflection waves between Kozushima and Niijima, 2) sedimentary layers and diffraction waves between Kozushima and Miyakejima, 3) smaller upper crust P-wave velocity at NE off Kozushima and W off Miyakejima, 4) distinct reflector at W off of Miyakejima at the depth of 10-11km, 5) crust-mantle boundary beneath Miyakejima at the depth of 25-27km. Magma does not seem to intrude extensively beneath the area. It is surmised that the reflectors may act as one of the sources of intense seismic activity.