

# Taiwan Chelungpu-fault Drilling Project (TCDP) and its non-destroyed physical property measurements for Hole-B cores

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Taiwan Chelungpu-fault Drilling Project (TCDP) started the drilling of second well named as Hole-B, following the faults were successfully drilled in the first well, Hole-A. We will mention the outline of TCDP and details of non-destroyed measurements plans using the entire Hole-B cores in Center for Advanced Marine Core Research, Kochi University.

A humongous and damaging earthquake (M7.6) occurred at the central region of western Taiwan in 1999. Its hypocenter is at the depth of about 10km and locates near the country town of Chi-chi. The length of surface rupture during Chi-chi earthquake along the north-south trending Chelungpu-fault is more than 80 km. Various data of GPS and field surveys suggested that the fault at northern part was lubricated during rupture. Therefore, we are attending the Taiwan Chelungpu-fault Drilling Project in order to mainly resolve the lubricate mechanism.

The Hole-B will be penetrated into the maximum depth of 1350m through the fault zones. We will use the entire cores retrieved from the depth range 950m-1350m of Hole-B to do non-destroyed measurements. The methods are including X-ray CT images, Gamma-ray density, P-wave velocity, magnetic susceptibility, electrical resistivity and natural Gamma-ray intensity of whole cores, optical digital images, color reflectance spectrum, analysis of component elements by X-ray fluorescence spectroscopy (XRF core logger).