GEOSLICER FOR HIGH-RESOLTION ACTIVE FAULT STUDIES

1 NAKATA, T. and 2 SHIMAZAKI, K. 1 Department of Geography, Hiroshima University, Higashi-Hiroshima, Japan; 2 Earthquake Research Institute, University of Tokyo, Tokyo, Japan.

It is a sort of dream among geoscientists to get easily and directly what wewant to see from underground. The newly invented equipment named Geoslicer easily extracts undisturbed wide vertical thin section of unconsolidatedQuaternary sediments. The basic structure of Geoslicer is very simple. A sampler is made of steel and is composed of a sampling box and its shutter. The box is wide and flat-shaped, having openings at one of the wider sides and bottom.For sampling, we firstly intrude the box vertically down into the groundusing a vibrohammer and then its shutter sliding along the thin slitsattached to both sides of the box, and pull out them together.Several devices are implemented to the box and the shutter, such aswedge-shaped sidewalls and a stopper at the bottom of the box for easypullout of the equipment and steady holding of samples. To reinforce thebox and shutter strong enough to bear the stress cause by hammering,L-shaped angles are welded on their back. Air pipes, which carrypressurized air to ease the vacuum condition at the time of extraction, arealso welded on the back of a slicer.This sampling method is for more effective on active fault studies than the conventional trench excavation technique and we will be able to carry out three dimensional analysis of active faulting, restoration of horizontalfault slip and so on.