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## **New prototype of 6-component seismograph Rotaphone CY: laboratory testing and pilot measurements**

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Rotaphones are seismic sensor systems consisting of parallel pairs of geophones attached to a rigid frame anchored to ground. Such an arrangement allows to measure both translational and rotational ground motions. Translations are measured by individual geophones while rotations are determined using differential records from the paired geophones. The individual geophones are calibrated simultaneously with each measurement utilizing overdetermined rotational components. A new prototype, Rotaphone CY has been recently developed. The design has been improved taking into account experience with field measurements performed using older prototypes. The device is optimized for recording weak ground motions from local microearthquakes, both natural or induced, in a high-frequency range. The instruments were carefully tested in laboratory conditions. Tests were followed by pilot field deployments in various places in the Czech Republic. A local network of six Rotaphones CY has been deployed in the scope of Litomerice geothermal project to investigate induced seismicity related to the production of geothermal energy. The instrument has also been recently deployed at the nuclear power plant Dukovany to monitor local seismicity with the aim to improve seismic hazard estimate. A small-aperture array of four these instruments was installed at the Geophysical Observatory Fürstenfeldbruck, Germany, in the frame of a comparative rotation sensors experiment. Examples of 6-component records from these pilot measurements are shown.