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A proposal for a recommended standard format for geophysical data for civil engineering applications

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Information of subsurface structure and physical properties should be opened as an important and fundamental land data of the nation. As one of the major land data, the boring log data obtained in many locations in Japan have been stored into a database as a XML-type digital data. The physical properties of soils and rocks measured with the laboratory test of boring core samples have been also stored into the same database.

On the other hand, although the standard data format such as SEGY and SEG2 for seismic reflection data has been widely used, those for other geophysical methods such as the electrical method and surface wave method have not been standardized yet, which prevents effective use of geophysical data in many civil engineering applications.

Therefore the Society of Exploration Geophysicists of Japan (SEGJ) organized a research consortium for establishing the standard digital format of geophysical data, in corporation with the Public Work Research Institute (PWRI) who has already established and opened a geotechnical database KuniJiban. The consortium is now studying the standard digital formats of the data and two-dimensional sections, preferentially for the seismic refraction method, surface wave method and electrical method which are often employed in civil engineering applications. The digital data format is the XML-type and that for the two-dimensional section is represented in cell or grid-based. The standardized data will be opened as a trial version on the website of PWRI in the near future.

Keywords: geophysics, civil engineering, digital standard format