Development of software " COREROKU " to support the geological analysis by high-quality core sampling information

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High-quality core sampling system is currently being evaluated in dam constructions and landslide controls where severe geological risk assessment is required in order to perform a highly accurate geological analysis. Core samples taken from high-quality core sampling system provide fine deformation structure and detailed geological change. The quality and quantity of geological information taken from those samples are well suited for application as compared to a usual boring survey. On the other hand, by the development of digital photography technology, more high-definition and large capacity image information are becoming available immediately after sample collection. It is expected to link image information with interpretation information as a database. However, the core samples deteriorate rapidly due to its observation, analysis and environmental condition. Therefore, it is necessary to make speedy information acquisition for an efficient analysis. New software "COREROKU (Koaroku)" is under development to solve these issues for operational efficiency of high-quality geological interpretation, quantify and data compiling. The most representative feature of “Koaroku” is a quick visualization of columnar section and graphs by arbitrarily combined indices. This feature enables to take panoramic view of whole geological situation at early core observing stage which is expected to support professional engineers to make more quantitative analysis for time reduction and operational efficiency. This software is expected to be an information sharing tool in practical business.
In data entry function of "COREROKU (Koaroku)", high-definition core sample images are used as a background image and core sample observation is recorded in clear and easy procedure. Main indices for data entry are type of surface structure, gravel shape trace, particle size, sedimentary structures, inclusions required for sedimentary facies analysis , a variety of test information for statistical analysis and not limited to basic interpretation indices corresponding to the JACIC basic criteria column. It is possible to enter surface structure data , mapping and stereo structural analysis when borehole-wall images are collected. In addition, columnar section and geological structure information can be imported to a three-dimensional geologic analysis system and used for analysis.
In this presentation, we will refer to our developing software including new function and performance being explored in ongoing operations.

Keywords: High-quality core sampling, geological analysis, information processing, software, COREROKU

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