

## **Evaluation of Physical Properties of Rocks in Forced Deterioration Experiments**

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To investigate deterioration rate of rocks, the authors conducted measurements of physical properties of naturally weathered Kimachi sandstone and forcedly deteriorated Kimachi sandstone. The naturally weathered Kimachi sandstone was obtained by boring from an excavation surface where it passed about 100 years since the last digging. From the measurement results of physical properties of the naturally weathered Kimachi sandstone, the relationships between the properties and depth or time were obtained. The forced deterioration experiments were carried out by the repetitions of drying-wetting and drying-wetting-freezing-thawing. As the experiment results, it was revealed that the ultrasonic wave speed decreases with the cycle of the curve approximated well with logarithmic function.