

● 建築

● 土木

● IT

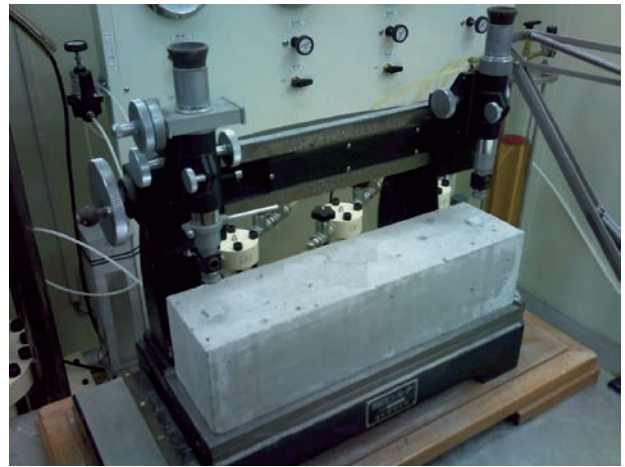
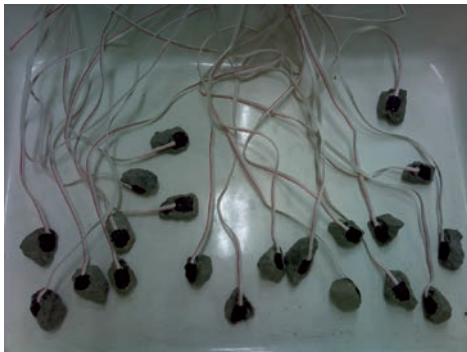
● 環境

## 粗骨材特性に基づくコンクリートの乾燥収縮率の推定法

Estimation method of drying shrinkage of concrete based on coarse aggregate properties

藤倉 裕介

Yusuke FUJIKURA



### 概要

本研究では、岩種や産地の異なる50種類の粗骨材について、粗骨材に直接ひずみゲージを張り付ける方法により粗骨材の乾燥収縮率を測定し、粗骨材の乾燥収縮率からコンクリートの乾燥収縮率を推定する方法について検討し推定式を提案した。また、粗骨材の乾燥収縮率の測定値を考慮し、複合則理論を用いてコンクリートの乾燥収縮率を推定し、測定値と比較した。さらに、著者が提案する乾燥収縮率の推定モデルを粗骨材について適用し、測定結果と比較することでその有効性を確認した。その結果、粗骨材の乾燥収縮率について空隙径分布との高い関連性があり本モデルによりおよその傾向が推定可能であることが分かった。

In this study, we measured the drying shrinkage of about 50 types of different coarse aggregates by attaching a strain gauge directly to the coarse aggregate surface. We also proposed an equation to predict the drying shrinkage of due to the coarse aggregate. It was found that the experimental and simulated results were in close agreement.

Next, a simulation model was developed to estimate the drying shrinkage of aggregate based on the pore structure as measured by mercury porosimetry. To evaluate the effectiveness of this model, simulation results were compared with experimental results. As a result, it was found that the experimental and simulated results were in close agreement, and the effectiveness of simulated model based on the pore structures of composition materials was verified.