

**Development of Non-destructive Inspection Method for Concrete Material with  
Laser-induced Vibration**

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A periodic inspection is conducted to prevent an accident of fall of a concrete material from concrete facing of tunnel. One major method for such inspection is an impact acoustics method which is popular because both the inspection and treatment can be conducted simultaneously. However, it is difficult to evaluate concrete performance quantitatively by the impact acoustics method because of its dependence on engineer's subjectivity and skill. Therefore, an inspection method by laser technique to evaluate concrete performance has been developed. By the proposed method, the concrete performance can be evaluated in good agreement with the result of the impact acoustics method.