

### **13. A Study on Active Noise Control Method - Evaluation of Performance in Tracking Fluctuating Noise -**

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The authors have developed and put to practical use an active noise control (ANC) system for reducing noise generated by construction machinery. Least mean square (LMS) algorithm is incorporated in the ANC system for the purpose of reducing fluctuating noise. The quickness of tracking fluctuating noise is determined by the step size parameter,  $\mu$ . By optimizing the value of  $\mu$  according to the speed of noise fluctuation, it may be possible to have more noise reduction effects. The authors experimentally investigated the relationship between  $\mu$  and the amount of noise reduction and identified the appropriate range of  $\mu$  values for each speed of noise fluctuation.

**Key words:** active noise control, feedback control, feed forward control, LMS algorithm