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Adaptive Method for State Estimation of Sound Environment System with Uncertainty and its Application to Psychological Evaluation

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ABSTRACT
The actual sound environment system exhibits various types of linear and non-linear characteristics, and it often contains uncertainty. Furthermore, the observations in the sound environment are often in the level-quantized form. In this paper, two types of methods for estimating the specific signal for sound envi-ronment systems with uncertainty and the quantized observation are proposed by introducing newly a system model of the conditional probability type and moment statistics of fuzzy events. The effectiveness of the proposed theoretical methods is confirmed by applying them to the actual problem of psychological evalua-tion for the sound environment.

KEYWORDS
Adaptive Estimation, Sound Environment System, Uncertainty, Psychological Evaluation

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