

# Active Noise Control with Sampled-Data Filtered- $x$ Adaptive Algorithm

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ABSTRACT. Analysis and design of filtered- $x$  adaptive algorithms are conventionally done by assuming that the transfer function in the secondary path is a discrete-time system. However, in real systems such as active noise control, the secondary path is a continuous-time system. Therefore, such a system should be analyzed and designed as a hybrid system including discrete- and continuous- time systems and AD/DA devices. This article proposes a hybrid design taking account of the continuous-time behavior of the secondary path via sampled-data control theory.

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