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**Analysis of steady-state tracking errors in sampled-data systems with uncertainty.** (English)

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The paper deals with robust steady-state  $\varepsilon$ -tracking of sampled data systems in the presence of structured norm bounded time-varying finite memory uncertainty. An appropriate steady-state norm has been defined, and a steady-state norm matrix has been constructed based on this norm. Exact conditions for robust  $\varepsilon$ -tracking of sampled data systems were derived in terms of the spectral radius of this matrix. The results show that even if zero steady-state tracking can be achieved for the nominal system, the steady-state tracking error may no longer be zero in the presence of time-varying uncertainty in the system, and that it can be arbitrarily large. An example for computing the steady-state tracking error for a sampled data system with uncertainty is provided.

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**MSC:**

**93C57** Sampled-data control/observation systems

**93B51** Design techniques (robust design, computer-aided design, etc.)

**Keywords:**

sampled data systems; robust control; robust tracking; steady-state tracking

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