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A Case Against Use of the Zero Order Hold in Identification

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   Transfer of discrete time models to continuous time is typically carried out under the assumption that the inputs are constant within the sampling interval, i.e., that they satisfy a zero order hold (ZOH). This assumption - adopted from digital control - where the ZOH is motivated by causality constraints, is unnecessary in off line identification. For the typical band limited inputs used in identification the error introduced by the ZOH consists (primarily) in distortions of the phase angles of the latent vectors. It is shown that improved accuracy in the synthesis of the continuous time model can be realized, without increases in computational complexity, by performing the discrete to continuous transfer on the premise that the inputs are a train of Dirac impulses.

Ключевые слова:

Содержание.
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