

H-Infinity Error Bounds In Approximating Time-Delay Systems

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Summary

In this paper, upper and lower bounds on approximating time-delay systems are proposed. Bounds on the infinity norm of the weighted error are obtained when the approximating function is a general rational function, an all-pass function or Pad and Laguerre approximations. In addition, approximations of the weighted errors for both Pade and Laguerre approximating functions are developed. Examples are presented in illustration.

References:

1. GLADER C, 1991, INT J CONTROL, V53, P369
2. GLOVER K, 1990, MATH CONTROL SIGNAL, V3, P325
3. GU GX, 1989, IEEE T AUTOMAT CONTR, V34, P610
4. LAM J, 1993, INT J CONTROL, V57, P377
5. MAKILA PM, 1990, AUTOMATICA, V26, P985
6. MAKILA PM, 1999, SIAM J CONTROL OPTIM, V37, P1897
7. PARTINGTON JR, 1991, AUTOMATICA, V27, P569
8. YOON MG, 1997, IEEE T AUTOMAT CONTR, V42, P1008

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