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论文

CONTINUOUS-TIME STOCHASTIC ADAPTIVE CONTROL STABILIZING THE SYSTEM AND MINIMIZING THE QUADRATIC LOSS FUNCTION

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摘要 For the completely observed colltinuous-time stochastic system (A, B, C)an adaptive control based on the ELS estimation algorithm is designed so that the quadratic loss function is minimized and the unknown coefficients are consistently estimated.The conditions imposed on the system are as follows: Span(B)\subset Span(C) and (A, B, D) is controllable and observable with D^\tau D = Q_1, where Q_1 is the weighting matrix for states in the loss function.

关键词 Stochastic adaptive control, continuous-
分类号

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Abstract For the completely observed colltinuous-time stochastic system (A, B, C)an adaptive control based on the ELS estimation algorithm is designed so that the quadratic loss function is minimized and the unknown coefficients are consistently estimated.The conditions imposed on the system are as follows: Span(B)\subset Span(C) and (A, B, D) is controllable and observable with D^\tau D = Q_1, where Q_1 is the weighting matrix for states in the loss function.

Key words Stochastic adaptive control continuous-time systems consistent estimate quadratic loss function

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