PARTICLE FILTERING FOR QUANTIZED SENSOR INFORMATION (ThuAmOR5)

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Abstract :

The implication of quantized sensor information on filtering problems is studied. The Cramer−Rao lower bound (CRLB) is derived for estimation and filtering on quantized data. A particle filter (PF) algorithm that approximates the optimal nonlinear filter is provided, and numerical experiments show that the PF attains the CRLB, while second−order optimal Kalman filter approaches can perform quite bad.

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