Bilinear Quadratic Optimal Control: A Recursive Approach

Chanane, B

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King Fahd University of Petroleum & Minerals

http://www.kfupm.edu.sa

Summary

This paper deals with the time-varying bilinear quadratic optimal control problem. Using Adomian's decomposition method, we shall first derive a functional expansion for the input-output map of the system, then transform the cost functional so that it yields the optimal control in a recursive manner. The optimal tracking problem is considered to illustrate the theory. An alternative method is derived which is proved to be more 'robust'. (C) 1997 John Wiley Sons, Ltd.

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