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Polynomial optimization of stochastic feedback control for stable plants. (English)

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A rigorous derivation is given of the polynomial method for optimizing the stationary stochastic feedback control of linear multivariable plants. The same approach is used for both discrete-time and continuous-time control. In each case, the method involves two spectral factorizations and, by considering only stable plants, the solution of one diophantine equation.

MSC:

- 93E20 Optimal stochastic control
- 93C05 Linear systems in control theory
- 93C35 Multivariable systems, multidimensional control systems
- 15A23 Factorization of matrices
- 15A24 Matrix equations and identities
- 93B25 Algebraic methods
- 93C55 Discrete-time control/observation systems

Cited in 4 Documents

Keywords:

polynomial method; stationary stochastic feedback control; linear multivariable plants; spectral factorizations; continuous-time

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