Singular Finite Horizon Full Information H-infinity Control via Reduced Order Riccati Equations

Francesco Amato; Alfredo Pironti

Abstract: In this paper we consider the standard finite horizon, full information $\mathcal{H}^{\infty}$ control problem when the direct feedthrough matrix, which links the control input to the controlled output, is not full column rank. Using a differential game approach, we show that, in this case, the solution of the problem can be obtained solving a *reduced order* Riccati differential equation.

Keywords:

AMS Subject Classification: