Number of Necessary Parameters for Parametrization of Stabilizing Controllers for two times two RHinf Systems

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Abstract : In this paper, we consider the number of parameters for the parametrization of stabilizing controllers for RHinf systems with size 2×2 . Fortunately, any plant of this model can admit doubly coprime factorization. Thus we can use the Youla parameterization to parametrize the stabilizing contollers . However, Youla parameterization does not give itself the minimal number of parameters. This paper shows that the minimal number of parameters is four. As a result, we show that the Youla parametrization naturally gives the parameterization of stabilizing controllers with minimal numbers.

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