

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 controllers. 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.

Keywords : RHinfo, parameterization, number of parameters, multi-input, multi-output systems

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