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Sampled-Data Model Predictive Tracking Control for Mobile Robot

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Abstract : In this paper, a sampled-data model predictive tracking control method is presented for mobile robots which is modeled as constrained continuous-time linear parameter varying (LPV) systems. The presented sampled-data predictive controller is designed by linear matrix inequality approach. Based on the input delay approach, a controller design condition is derived by constructing a new Lyapunov function. Finally, a numerical example is given to demonstrate the effectiveness of the presented method.

Keywords : model predictive control, sampled-data control, linear parameter varying systems, LPV
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