REFERENCE MANAGEMENT FOR AFERTREATMENT TEMPERATURE CONTROL OF AUTOMOTIVE DIESEL ENGINES

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Abstract

This talk describes aftertreatment temperature control of automotive diesel engines based on a Reference Governor (RG). The RG algorithm computes a modified reference of catalyst temperature so that the predicted output of the closed-loop system on a finite prediction horizon does not exceed the constraint of its maximal temperature. We apply a bisectional search algorithm to the RG where the search region is extended in order to take account of model uncertainties. We show the effectiveness of the present method through an experiment with a production vehicle.