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New Directions on Model Predictive Control

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Message from the Guest Editors

Model predictive control (MPC) has been an important and successful advanced control technology in process industries, mainly due to its ability to handle effectively complex systems with hard control constraints. At each sampling time, MPC solves a constrained optimal control problem online, based on the most recent state or output feedback to obtain a finite sequence of control actions and only applies the first portion. MPC presents a very flexible optimal control framework that is capable of handling a wide range of industrial issues while incorporating state or output feedback to aid in robustness of the design.

The purpose of this Special Issue is to assemble a collection of current research in MPC that handles practically-motivated theoretical issues, as well as recent MPC applications to highlight the significant potential benefits of new MPC theory and design.