SESSION 2.2 - ROBOTICS AND AUTONOMOUS SYSTEMS

Invited speech - **IT'S NOT MPC ! AN EXPLICIT REFERENCE GOVERNOR FOR THE SUPERVISION OF CONSTRAINED NONLINEAR SYSTEMS**

This paper presents the first release of the Explicit Reference Governor Toolbox (ERGT). The ERGT provides a user-friendly interface for the design of an Explicit Reference Governor, which is an add-on unit that provides constraint handling capabilities to closed loop systems. At the present stage, the toolbox can be used to design an ERG for the constrained control of linear systems subject to the union and intersection of linear constraints. The paper describes several ERGT resources, such as i) built-in Matlab functions for the design phase, ii) Simulink blocks for performing simulations, and iii) a simple tutorial of how to use the toolbox. Additionally, this paper extends the ERG scheme to deal with constraints in the form of union of convex polyhedra.

Emanuele Garone

(Université Libre de Bruxelles, Belgium)