

# Control of a class of discrete event systems with disturbances and capacity constraints: Application to a disassembly problem

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**Abstract** This study proposes an analytical control method for the meeting of capacity constraints in discrete event systems with disturbances. More precisely, it consists of computing control laws for partially controllable and observable timed event graphs that are subject to marking constraints. To resolve the issue, linear Min-Plus models are used to describe the behavior of these graphs, and the constraints are expressed by inequalities in Min-Plus algebra. Sufficient conditions for the existence of causal control laws to guarantee marking specifications are established. Finally, to illustrate the efficiency of the proposed approaches in this paper, an application for a disassembly process with some disturbance inputs and limited component capacities is carried out.