Supervisory Control of (max,+) Automata: A Single Step Approach

Submitted by Emmanuel Lemoine on Thu, 01/30/2014 - 14:52

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Communication

Communication avec actes dans un congrès

2009

Anglais

2009

European Control Conference, ECC'09

Komenda, Jan [1], Lahaye, Sébastien [2], Boimond, Jean-Louis [3]

Hongrie

Budapest

Control of (max,+) automata is studied within a behavioral framework. The classical tensor product of their linear representations and its generalized version extends the parallel composition of logical automata to (max,+) automata. In terms of behaviors (formal power series) these correspond to Hadamard product and a generalized version of it is studied in this paper. Supervisory control theory based on the generalized version of Hadamard product has an advantage that both logical and timing aspects can be captured at the same time using residuation theory of (multivariable) formal power series. Rationality as an equivalent condition to realizability of the resulting controller series is discussed.

Date du colloque : 08/2009


http://hal.archives-ouvertes.fr/hal-00858968 [5]

[5] http://hal.archives-ouvertes.fr/hal-00858968

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Publié sur Okina (http://okina.univ-angers.fr)