

Conditions for Model Matching of Switched Asynchronous Sequential Machines with Output Feedback

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Abstract : Solvability of the model matching problem for input/output switched asynchronous sequential machines is discussed in this paper. The control objective is to determine the existence condition and design algorithm for a corrective controller that can match the stable-state behavior of the closed-loop system to that of a reference model. Switching operations and correction procedures are incorporated using output feedback so that the controlled switched machine can show the desired input/output behavior. A matrix expression is presented to address reachability of switched asynchronous sequential machines with output equivalence with respect to a model. The presented reachability condition for the controller design is validated in a simple example.

Keywords : asynchronous sequential machines, corrective control, model matching, input/output control

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