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2009 Joint International Conference on Modelling and Simulation; Manchester; 21 May 2009 through 22 May 2009; Code 79025**Agent-DEVS: An extended DEVS formalism for intelligent modeling and simulation**[Cao, Q.](#)^{a b} , [He, Z.-S.](#)^b , [Yu, L.](#)^b ^a Department of Training, Logistical Engineering University, 400016 Chongqing, China^b College of Computer Science, Chongqing University, 400044 Chongqing, China**Abstract**

DEVS (Discrete Event systems Specification) formalism has the advantages of standardization, hierarchy and modularity, but it is incapable of intelligent modeling and simulation. So Agent-DEVS, an extended DEVS formalism, is proposed. The modeling theory based on Agent is introduced into DEVS formalism, which enables it to describe the inner intelligent behavior and the mutual intelligent collaboration of system modules directly. The formal specifications of Agent-DEVS atomic model and coupled model are analyzed in detail. And the closure of Agent-DEVS under coupling is proved.

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