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**Kharitonov D.I.** ([demiurg@dvo.ru](mailto:demiurg@dvo.ru)), **Parkhin R.V.**, **Tarasov G.V.**

Institute of Automation and Control Processes

#### MODELING MPI COLLECTIVE OPERATIONS IN TERMS OF PETRI NETS

An approach to model MPI operations for communications of process groups in terms of Petri nets is proposed. Large-block compositional model of the MPI environment is introduced along with notation extension of compositional Petri nets to reduce a description of components in the model. The model of the MPI communicator is described and examples of MPI collective operation models are presented.

**Keywords:** system modeling, Petri nets, message passing interface, MPI.

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