DECOMPOSITIONAL ANALYSIS OF KRONECKER STRUCTURED MARKOV CHAINS

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Keywords: Markov chains, Kronecker representation, decomposition

Abstract

This contribution proposes a decompositional iterative method for the steadystate analysis of Kronecker structured Markov chains [1]. The Markovian system, which is formed by a composition of subsystems using the Kronecker sum operator for local transitions and the Kronecker product operator for synchronized transitions, is assumed to have irreducible subsystem matrices associated with local transitions. However, in contrast with [2], the interactions among subsystems, which are captured by synchronized transitions, are not assumed to be weak. On a variety of problems the merit of the proposed solver is investigated.

Acknowledgement: This research is partially supported by grants from TÜBA-GEBIP and TÜBİTAK.

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