

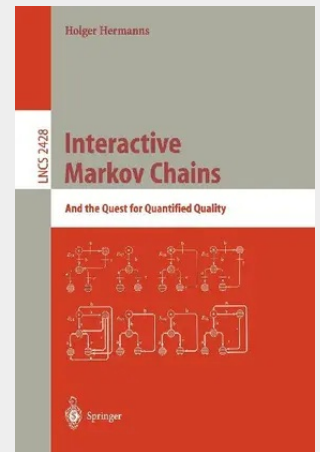
## Interactive Markov Chains

The Quest for Quantified Quality

Markov Chains are widely used as stochastic models to study a broad spectrum of system performance and dependability characteristics. This monograph is devoted to compositional specification and analysis of Markov chains.

Based on principles known from process algebra, the author systematically develops an algebra of interactive Markov chains. By presenting a number of distinguishing results, of both theoretical and practical nature, the author substantiates the claim that interactive Markov chains are more than just another formalism: Among other, an algebraic theory of interactive Markov chains is developed, devise algorithms to mechanize compositional aggregation are presented, and state spaces of several million states resulting from the study of an ordinary telephone system are analyzed.

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