

# Stochastic Processes with Two-dimensional Discrete Parameter and Markov Properties

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## **Abstract**

In this paper we define several Markov properties for stochastic processes with finite state space and two-dimensional discrete parameter and we give the instruments that are necessary to study the conditions which must be fulfilled by a three-point transition function so that the associated stochastic process has such a Markov property.

**Key words:** three-point transition function,  $\mathcal{A}$ -Markov process

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