

# Stochastic Petri Nets and Ageing Properties

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## Abstract

Stochastic Petri nets (SPNs) with generally distributed firing times are a very powerful tool to model a large class of systems. Several classes of stochastic Petri nets have been defined and associated with stochastic processes. In order to analyse the long run behaviour of SPN models different approaches have been applied. Because of the potential complexity of SPNs we consider particular basic stochastic Petri nets (building blocks). We examine them from the reliability point of view and study stochastic ageing with these building blocks. Finally we introduce different possibilities of connecting the building blocks in order to build larger SPNs.