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Transient Solution of a Correlated Queueing Problem with Variable Capacity and Catastrophes

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Abstract

In this paper, we develop a continuous time, correlated arrivals queuing model with variable capacity and catastrophes for the cell traffic generated by New Broadband Communication Networks in presence of viruses and noise bursts. Transient solution of the model has been obtained using probability generating function technique. Finally some particular cases are derived.

Keywords: Correlation, Catastrophe, Variable Capacity, Transition marks, Broadband Services.