

Modeling of Wireless Networks as Queuing System

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This paper presents the study of special Erlang distribution model in wireless networks and mobile computing. We demonstrate that the Erlang family provides more flexibility in modeling that exponential family, which only has one parameter.

In practical situations, the Erlang family provides more flexibility in fitting a distribution to real data that the exponential family provides. The Erlang distribution is also useful in queueing analysis because of its relationship to the exponential distribution.

To demonstrate the applicability of the Erlang distribution, we consider queueing model, represented as wireless channel where the interarrival times between failures have the Erlang Distribution.

Keywords —Erlang distribution, interarrival time between failures, probabilistic approach, queueing model.