

Akinsete, A. A. (2000). The probability and mean service time of system in series with absorption. *Journal of the Nigerian Mathematical Society*. **19**, 77-83. MR2055736

Abstract:

A system consisting of k transient states in series is considered. Each of the transient states is $(M|M|1)$, terminating into an absorbing $(k + 1)^{th}$ state. We obtain the time-dependent and steady-state mean service time of the system with particular application to a two-state system. The method of the eigenvalues and eigenvectors of the transition rate matrix is adopted, with a first-come-first-out service regime.