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Large deviations in the system with general retrial time

We consider logarithmic asymptotics of the large deviation probability in a single-server queue with general input, where server, after completion of service, seeks a customer from an orbit (retrial customer) for the next service, unless new arrival captures server. Under stability assumption, the asymptotic of the probability that the number of customers in the system reaches a high threshold within a regeneration cycle is found.