

每个节点具有多服务台的Jackson网络流体逼近的收敛速度

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摘要 研究一个每个节点具有多服务台的Jackson网络. 在服务强度为1的条件下, 研究了Jackson网络的泛函重对数率与其流体逼近的收敛速度, 证明了如果该网络的外部到达过程, 服务过程有泛函重对数率, 且在流体变换下以指数速度收敛到其相应的流体模型, 则其队长过程、负荷过程、忙期过程等也具有相应的性质.

关键词 [Jackson网络](#), [泛函重对数率](#), [收敛速度](#), [流体逼近](#).

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Convergence Rate of Fluid Approximation for Jackson Network with Multi-Server in Heavy Traffic

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Abstract A generalized Jackson network with multi-server is considered. It is proven that if the arrival, service and routing processes satisfy the functional law of iterated logarithm, then the queue length, workload and busy time processes also satisfy the functional law of iterated logarithm. Furthermore, if the scaled processes of arrival, service and routing uniformly converge to their corresponding fluid processes with exponential rate, then the scaled processes including the queue length, workload and busy time also uniformly converge to their corresponding fluid processes with exponential rate.

Key words [Generalized Jackson network](#) [the functional law of iterated logarithm](#) [convergence rate](#) [fluid approximation](#).

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