

Seminar of Probability and Stochastic Process

Wednesday, 25 January, from 11h15 to 12:00

[MA A3 31](#), EPFL, Ecublens

[Prof. Serguei Foss](#)

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On heavy tails and multiserver systems

Abstract:

We present upper and lower bounds for the tail distribution of the stationary waiting time D in the stable $GI/GI/s$ FCFS queue. These bounds depend on the value of the traffic load ρ which is the ratio of mean service and mean interarrival times. For service times with regularly varying tail distribution the bounds are exact up to a constant, and we are able to establish a 'principle of $s - k$ big jumps' in this case (here k is the integer part of ρ).

As another corollary of the bounds obtained, we provide a new proof of necessity and sufficiency of conditions for existence of moments of the stationary waiting time.

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