Queueing Models for Performance Analysis of Future Wireless Networks

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Over the past few years, there has been an increasing level of research activities worldwide to design and performance analysis for the future multiservice networks, namely M2M and D2D communications over the LTE networks, P2P live streaming networks. The talk outlines how mathematical models are being used to address current issues concerning quality of service and performance parameters of the modern and future networks, including wireless networks. We shall first show models based on the queuing theory and teletraffic theory and reflecting key features of admission control mechanisms in the LTE network. We also show the analysis for Licensed Shared Access (LSA) regulatory framework, and also resource allocation in wireless networks with random resource requirements. Then we discuss some stochastic geometry problems of the interference analysis in D2D wireless networks. Finally, we are discussing the problem of modelling users mobility in future wireless networks. There should be great opportunities for the scientific community to contribute to solution of these problems in the forthcoming decade.

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