

# Using PRISM to model spectrum renting in mobile cellular networks \* † ‡

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## Abstract

We report on the use of high performance computing in order to analyze with the probabilistic model checker PRISM mobile cellular networks, in particular the system described in the paper "A New Finite-Source Queueing Model for Mobile Cellular Networks Applying Spectrum Renting" by Tien v. Do et al [1]. That paper proposes a new finite-source retrial queueing model with the finite number of sources to investigate the performance measures of the system. In the original paper the numerical results was produced using MOSEL-2 softver tool. Our results show that the model can be also appropriately described and analyzed in PRISM.

*Keywords:* mobile cellular networks, retrial queues, PRISM, queueing systems

*MSC:* 60K25, 90B15

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\*The research of Tamás Bérczes was supported by the European Union and the State of Hungary, co-financed by the European Social Fund in the framework of TÁMOP-4.2.4.A / 2-11/1-2012-0001 "National Excellence Program".

†The work of János Sztrik was supported by the TÁMOP-4.2.2.C-11/1/KONV-2012-0001 project. The project has been supported by the European Union, co-financed by the European Social Fund.

‡The contribution of Wolfgang Schreiner and Gábor Kusper was supported by the Hungarian Science and Technology Foundation, Hungarian-Austrian Bilateral Cooperation under project TÉT 10-1-2011-0679

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