

# SSC Reception over Kappa-Mu Shadowed Fading Channels in the Presence of Multiple Rayleigh Interferers

Aco Stevanovic<sup>1</sup>, Stefan Panic<sup>2</sup>, Petar Spalevic<sup>3</sup>, Bojan Prlincevic<sup>4</sup>, Milan Savic<sup>2</sup>

<sup>1</sup>*Singidunum University,*

*Danijelova 32, Beograd, Serbia*

<sup>2</sup>*Faculty of Natural Science and Mathematics, University of Pristina,*

*Lole Ribara 29, 38220 Kosovska Mitrovica, Serbia*

<sup>3</sup>*Faculty of Technical Science, University of Pristina,*

*Kneza Milosa 7, 38220 Kosovska Mitrovica, Serbia*

<sup>4</sup>*Higher Technical Professional School in Zvecan,*

*St. Nusiceva No. 6, 38227 Zvecan, Serbia*

*b.prlincevic@vts-zvecan.edu.rs*

**Abstract**—Modelling of complex wireless transmission scenario over fading channels in the presence of multiple co-channel (CCI) interferers will be presented in this paper. Propagation environment will be modelled with general kappa-mu shadowed model, which can be reduced to other well-known model as its singularities. Probability density function (PDF) and cumulative distribution function (CDF) of resulting signal-to-interference (SIR) ratio statistics at the reception will be derived in the rapidly converging infinite-series expressions form. Obtained expressions will be further used for evaluation of standard wireless performance criterions, outage probability (OP) and average bit error rate (ABER) and their analysis in the function of transmission parameters. Finally, possible performance improvement will be considered for the case of possible application of switch-and-stay (SSC) diversity reception technique.

**Index Terms**—Wireless communication; Fading channels, Interference channels; Diversity reception; Bit error rate.

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