

Workshop on Mathematical Modeling and its Applications in Engineering and Quantum Sciences: A Mathematical Culture in Transition.
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Binomial Operations and Their Applications to Network and Communication Systems

FAISSAL EL BOUANANI

Abstract : In many fields of research, including networks and wireless communication systems, where random noises and interferences exist in addition to the transmitted signal, effective stochastic algorithms are critical for improving and assessing system performance. Optimal stopping algorithms are essential for lowering system complexity while preserving a fair complexity-performance-security trade-off. The closed-form or asymptotic expression, in the high signal-to-noise ratio regime, for the probability expression is critical in determining the optimal values of algorithm's parameters. The talk will look at the intersection of networks, stochastic algorithms, and the use of binomial operations to improve these algorithms for more effective communication systems.

Faissal El Bouanani
ENSIAS, Mohammed V University, Rabat, Morocco.
e-mail : f.elbouanani@um5s.net.ma