Large Deviation Approximation for Runs and Patterns

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In this talk, we present some results on the large deviation approximations for two types tail probabilities for the number of specified runs or patterns occurred in a sequence of multistate trials. The large deviation rate functions are obtained by using the finite Markov chain imbedding technique, Perron-Frobenius theorem and moment generating function technique. We also provide several examples to illustrate the theoretical results.

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