

Mathematical structure behind Tsallis statistics

-- from the fundamental nonlinear differential equation to the large deviation estimate --

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Abstract

This talk consists of the two parts. (1) It is briefly reviewed that Tsallis statistics can be derived from the fundamental nonlinear differential equation. (2) Along the line of our formulations, the novel large deviation estimate in Tsallis statistics will be given. In particular, the α -divergence is naturally appeared as the rate function in a fundamental and important example.