Cramér Type Moderate Deviations for Self-normalized Processes

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Abstract: A Cramér type moderate deviation characterizes the relative error of a probability approximation and plays more and more important role in probability theory, statistical inference and multiple hypothesis testing problems. In this talk a moderate deviation theorem for general self-normalized processes will be established and applications to Studentized U-statistics and Hotelling's T^2 statistics will be discussed. The talk is based on joint work with Wenxin Zhou and Weidong Liu.