学术报告

Exact Moderate and Large Deviations for Sums of Dependent Random Variables

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报告摘要：Large and moderate deviation probabilities play an important role in many applied areas, such as insurance and risk analysis. In this talk we first study the exact moderate and large deviation asymptotics in non-logarithmic form for linear processes with independent innovations with p^{th} (p>2) moment and regular varying right tails. The linear processes we analyzed are general and therefore they include the long memory case. We give an asymptotic representation for probability of the tail of the normalized sums and specify the zones in which it can be approximated either by a standard normal distribution or by the marginal distribution of the innovation process. We also extend the results to linear random fields. The results are then applied to regression estimates, moving averages, fractionally integrated processes, linear processes with regularly varying exponents, functions of linear processes and Davis-Gut law of the iterated logarithm.

  We also study the moderate deviation under the Cramer condition for sums of random fields by applying the conjugate method. The results are applicable to the partial sums of linear random fields with short or long memory and to nonparametric regression with random field errors. (This talk is based on joint work of three papers with Aleksandr Beknazaryan, Magda Peligrad, Wei Biao Wu, Yimin Xiao and Yunda Zhong.)

欢迎大家参加！