MULTIVARIATE LARGE DEVIATIONS FOR SUMS OF I.I.D. RANDOM VECTORS WITH COMPACTLY SUPPORTED DISTRIBUTION

Alexander Zaigraev

Abstract: The sums of i.i.d. random vectors with compactly supported and absolutely continuous distribution are considered. Under some conditions the strong form of the local limit theorem for large deviations is proved. In passing the asymptotic behaviour of the moment generating function as well as possible non-degenerate limit laws for the natural exponential family of distributions are established.

2000 AMS Mathematics Subject Classification: Primary 60F10; Secondary 60G50.

Key words and phrases: Abel theorem, Cramér transformation, Fenchel-Legendre transformation, Laplace method, local limit theorem, natural exponential family of distributions.

THE FULL TEXT IS AVAILABLE HERE