

Measure Concentration for Stable Laws with Index Close to 2

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Abstract

We give upper bounds for the probability $P(|f(X)-Ef(X)|>x)$, where X is a stable random variable with index close to 2 and f is a Lipschitz function. While the optimal upper bound is known to be of order $1/x^\alpha$ for large x , we establish, for smaller x , an upper bound of order $\exp(-x^\alpha/2)$, which relates the result to the gaussian concentration.

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