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A tail bound for sums of independent random variables and application to the Pareto distribution. (English) [Zbl 1195.60029](#)

[Appl. Math. E-Notes 9, 300-306 \(2009\)](#).

Let $X_i, 1 \leq i \leq n$, be independent random variables with $EX_i = 0$ and $E|X_i|^p < \infty$ for some $p \geq 2$. By making use of the Rosenthal inequality and the Bernstein inequality, the author derives an upper bound for the tail probability $P(X_1 + \dots + X_n \geq t), t > 0$. This is first specialized to the case $X_i = a_i Y_i$, where $a_i \in R$ and $Y_i, 1 \leq i \leq n$, have a common Pareto distribution. Then it is compared with the celebrated Fuk-Nagaev inequality.

Reviewer: Aurel Spătaru (București)

MSC:

[60E15](#) Inequalities; stochastic orderings

Cited in **2** Documents

Keywords:

[tail probability](#); [Pareto distribution](#); [Fuk-Nagaev inequality](#)

Full Text: [EuDML](#) [EMIS](#)