

Exponential bounds for multivariate self-normalized sums

Patrice BERTAIL, *Laboratory of Statistics, CREST and MODALX, University Paris X, France*

Emmanuelle GAUTHERAT, *Laboratory of Statistics, CREST and Economic Faculty of Reims, France*

Hugo HARARI-KERMADEC, *Laboratory of Statistics, CREST and Université Paris-Dauphine, France*

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Abstract

In a non-parametric framework, we establish some non-asymptotic bounds for self-normalized sums and quadratic forms in the multivariate case for symmetric and general random variables. These bounds are entirely explicit and essentially depends in the general case on the kurtosis of the Euclidean norm of the standardized random variables.

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Pages: 628-640

Published on: December 14, 2008

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