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15. Oktober 2008

Einladung zum Vortrag

von

Dr. Zakhar Kabluchko

GEORG-AUGUST-UNIVERSITÄT GÖTTINGEN

Scan statistic of marked empirical processes

Let n points be chosen independently and uniformly in the unit cube $[0,1]^d$, and suppose that each point is supplied with a mark, the marks being i.i.d. random variables independent from the location of the points. To each cube R contained in $[0,1]^d$ we associate its score $X_n(R)$ defined as the sum of marks of all points contained in R. The scan statistic is defined as the maximum of $X_n(R)$, taken over all cubes R contained in $[0,1]^d$. We show that if the marks are non-lattice random variables with finite exponential moments, having negative mean and assuming positive values with non-zero probability, then after appropriate normalization the distribution of the scan statistic converges as $n \to \infty$ to the Gumbel distribution. We prove also a corresponding result for the scan statistic of a Lévy noise with negative mean. The more elementary cases of zero and positive mean are also considered.

Termin: Mittwoch, 05. November 2008 , 14:15 Uhr

Ort: Universität Ulm, Helmholtzstr. 18, Raum E20

Interessenten sind herzlich eingeladen.

Der Vortrag findet im Rahmen unseres Forschungsseminars statt.

gez. E. Spodarev