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29. Mai 2018

Einladung zum Vortrag

von

Prof. Dr. Martin Schlather
Universität Mannheim

Some new variogram models for univariate and bivariate random fields

(joint work with Olga Moreva and Niklas Hansen)

Although the area of geostatistics is more than fifty years old, still not sufficiently many covariance models are known. For instance, in the multivariate case, particularly bivariate case, only a few models are known. Even simple, fully symmetric extensions from the univariate to the multivariate case such as the bivariate Matern model are rare. Except for covariance models stemming from differential equations, Wackernagel's delay model is the only one that offers a covariance model that is not fully symmetric. A further unfortunate point for model fitting in geostatistics is that the set of models is split into two main disconnected groups: stationary models and intrinsically stationary models.
In the talk we present some own contributions in the above areas.

Circulant embedding is one of the most important techniques to simulate univariate stationary Gaussian random fields on a grid. It guarantees an exact simulation if the covariance model has compact support. Hence, Gneiting et al (2006) suggested to continue any covariance function outside the area of interest by a compactly supported function to enforce exact simulation.
This talk also introduces into the circulant embedding and the Gneiting's cut off technique that leads implicitely to new compactly supported models.
We show that Gneiting's technique can be considerably improved and extend the method to the bivariate case.

Termin: Freitag, 08. Juni 2018, 14:30 Uhr

Ort: Universität Ulm, Helmholtzstr. 18, Raum 220

Der Vortrag findet im Rahmen des Mathematischen Kolloquiums statt.
Interessenten sind herzlich eingeladen.

gez. E. Spodarev