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19. Dezember 2017

Einladung zum Vortrag

von

Dr. Felix Ballani

TU Bergakademie Freiberg, Institut für Stochastik

Stochastic modelling of particles by random convex polyhedra

Randomly shaped particles appear both as parts of a spatial configuration in a compound material or as a loose sample like in a powder. In the talk we address several aspects related with stochastic modelling of such particles by random convex polyhedra. On the basis of the so-called typical cell of a stationary Poisson hyperplane mosaic we first introduce a class of parametric polyhedron distributions, which is an exponential family. Besides the maximum likelihood method as the standard tool for parameter estimation, we furthermore propose a way how the parameters can be estimated if not all sufficient statistics are available. Finally we give some details for the simulation of random configurations of random polyhedra. Since the introduced polyhedron distribution allows for potentially unbounded polyhedra but sampling windows are usually bounded, in certain situations there is the need to generate realizations of a particle process or its corresponding union set which are exact in the sense of avoiding edge effects.

Termin: Freitag, 26. Januar 2018, 14:30 Uhr

Ort: Universität Ulm, Helmholtzstr. 18, Raum 220

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

gez. V. Schmidt