

MICHIGAN STATE UNIVERSITY
Department of Statistics and Probability

COLLOQUIUM

Juan Du
Kansas State University

Variogram Models on Spheres

Tuesday, November 21, 2017

10:20 a.m. - 11:10 am

Refreshments 10:00 am

C405 Wells Hall

Abstract

Variogram or variogram matrix functions play an important role in modeling dependence structure among multiple processes at different locations in spatial statistics. This work gives the characterizations of the variogram models on spheres of different dimensions for intrinsically stationary, univariate or multivariate processes. Efficient approaches are proposed to construct a variety of isotropic variogram or variogram matrix functions including simple polynomial structures. Series representations and variogram properties of intrinsic stationary random fields on spheres are elaborated in both theoretical and simulation studies. Applications of the proposed model and related theoretical results are demonstrated using simulation and real data analysis.

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