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Title: Positive definite functions on spheres: some statistical and mathematical issues

Abstract:

Positive definite functions are a key mathematical tool in geostatistics. If the study region is geographically extensive, the space which needs to be considered is the spherical surface equipped with the geodesic distance. After reviewing some general results about positive definite functions on spheres, this talk will focus on Bayesian nonparametric models for spatial covariance functions for global data.

Then, it will review main known results about strict positive definiteness on spheres in the isotropic case and will show a sufficient condition for strict positive definiteness in the axially symmetric case.