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September 21 @ 5:00 pm - 6:00 pm UTC+4

Title: “Space-Time Statistics on strange spaces: making it difficult to make it easier”.

Abstract: Mathematical and statistical methods for spatial and space-time data have been traditionally developed by assuming the spatial domain to be a planar surface. Recently, the advent of global climate datasets has prompted research on random fields that are continuously indexed over spheres, or spheres cross time, or other manifolds.

Often, the spatial domain is not as nice as one might wish, so that implementing the classical mathematical machinery might not be possible. For instance, road traffic data, processes observed over rivers, or again processes observed over nonlinear networks, call for new methods that take into account for different geometries. I shall illustrate how to deal with these cases by adopting the standard terminology of graphs with Euclidean edges, quasi metric spaces, and locally compact groups. Specifically, I shall show that making things more abstract allows to find simple solutions that turn to be very useful for the practitioner.