Hierarchical Scale Mixtures for Flexible Spatial Modeling

Scale mixtures of Gaussian processes have emerged as desirable candidates for modeling extremal phenomena in space. They are intuitive, simple to describe constructively, and flexible in the types of extremal dependence that they can represent. Inferences for these models using censored likelihoods has been limited to very small datasets due to the presence of a high-dimensional Gaussian integral that must be evaluated numerically. Rather than integrating over a latent Gaussian process, we condition on it, expressing the model hierarchically. This way, we allow Markov chain Monte Carlo to do the hard integration, and open the door to inference on much larger datasets than were previously possible.

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Refreshments will be served following the seminar in 1181 Comstock Hall.