



The University of Chicago

Department of Statistics

Seminar Series

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Graduate School of Business

“Spatial Factor Models”

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133 Eckhart Hall, 5734 S. University Avenue

Refreshments following the seminar in Eckhart 110.

ABSTRACT

We propose a new class of spatial factor analysis. A number of factors are defined to drive the variability of the observations as in standard factor models. Their loadings however are restricted to satisfy stochastic constraints based on their spatial structure. A few spatial structures can be considered but we concentrate on those based on Gaussian processes, commonly used in Geostatistics.

Spatial dependence appears in the columns of the factor loading matrix. A novel reversible jump Markov Chain Monte Carlo algorithm is proposed to select the number of common factors. The new class of models is tested against synthetic and real data examples.

Please send email to Mathias Drton (drton@galton.uchicago.edu) for further information. Information about building access for persons with disabilities may be obtained in advance by calling the department office at (773) 702-8333.