Some Asymptotics for Geostatistical Model Selection

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Abstract

Information criteria such as AIC and BIC are often used in model selection. However, their asymptotic behaviors in geostatistical model selection have not been well studied, particularly under infill asymptotics based on increasing dense data observed in a fixed and bounded region. In fact, some spatial dependent parameters can't be consistently estimated by maximum likelihood under infill asymptotics, thus making the problem difficult to handle. In this talk, I will first provide some asymptotic properties of the generalized information criterion, including AIC and BIC. In addition, I will introduce the conditional generalized information criterion and provide some numerical and theoretical justification.

This talk is based on joint work with C.-K. Ing and J.-H. Zhang.