

Efficiency of Parametric Bootstrap Kriging Variance Estimators

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The bootstrap method which is also often called resampling method is generally applied to the data of independent and identically distributed (iid)-non parametric. One of the properties of the spatial data depends on distance from one to another point of observation so that they have a correlation structure. The bootstrap method cannot be naively applied to spatial data as it would undermine the spatial correlation structure that is already built. In order the bootstrap method to be able to be applied to spatial data, correct algorithm is required. A new algorithm is constructed to obtain the proper procedure in estimating parametric bootstrap kriging variance. The study focuses on comparison between the simulation result of the former algorithm and the new one. The simulation results of the new algorithm showed their estimators more efficient than the kriging variance estimators existing.

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