

Abstract Submitted
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Quantifying Model Error using a Kriging Process¹ MALACHI TOLMAN, Brigham Young University Physics Department — Uncertainty Quantification (UQ) is an important and rapidly growing field with applications across many disciplines. Since all mathematical models employ approximations, they represent physical reality with varying degrees of fidelity. An important component of UQ is quantifying the inherent inaccuracy of the model. This error usually manifests itself as a systematic bias in the parameter estimates and model predictions. A Kriging process is a type of meta-model designed to account for model bias by introducing a few hyper-parameters. We use information geometry to explore the statistical properties of this hyper-parameter space. We show that the potential for estimating model error depends on the amount of experimental noise present.

¹Quantifying Model Error using a Kriging Process

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