



Bayes linear uncertainty analysis for spatial hazards modelled by computer simulators

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There is a growing field of study which arises from uncertainty analysis for complex physical systems represented by computer simulators. Particular characteristics of this area are, firstly, the need to deal with simulators which are slow to evaluate, by means of model emulation, and, secondly, the need to address the differences between the simulator and the real physical system through structural discrepancy modelling. These problems are particularly acute in spatial applications, where the different, but related, performance of the simulator in different spatial locations must be incorporated into the analysis. We will discuss the Bayes linear approach to treating such uncertainties, and use as illustration the problems arising from using flood models at a variety of neighbouring locations. [This work is supported by the NERC PURE programme.]

Keywords: Bayes; computer models; emulation; structural discrepancy.