

Analyse de sensibilité globale pour modèles complexes

vendredi 28 mai 2021 09:00 (1h 30m)

Many mathematical models use a large number of poorly-known parameters as inputs. Sensitivity analysis aims at quantifying the influence of each of these parameters (or of each subset of these parameters) on specific quantities of interest. More generally it helps in understanding model behavior, characterizing uncertainty, improving model calibration, etc. In these lectures I will focus on Global Sensitivity Analysis which is based on the modeling of input uncertain parameters by a probability distribution. There exist various measures built in that paradigm. I will mainly present variance based measures, in the framework of scalar, vectorial and functional outputs, in the framework of independent or dependent inputs. I will also discuss different alternatives for the estimation of these measures. Most of the estimation procedures rely on an input/output sample. The lectures will be illustrated on Notebooks.

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