

Proposition de communication aux rencontres du réseau Mexico 2018

Subject: Estimation of moment independent importance measures using a copula and maximum entropy framework

Summary: The moment-independent sensitivity analysis technique introduced by E. Borgonovo has gained increasing attention to characterize the uncertainty of complex systems and optimize their reliability. The estimation of corresponding indices is a challenging task. This talk aims at presenting a new estimation scheme valid for dependent model inputs. This scheme is build on the copula representation of indices and uses maximum entropy methods to estimate this copula. Accuracy of the proposed method is evaluated through numerical simulations and is compared to two competitive methods, namely an importance sampling based approach and a second one which uses the Nataf transformation.