

Sensitivity analysis quantifies the uncertainty in an input-output system by measuring the influence of the inputs on the output. This paper presents a new sensitivity index by permuting the observations of an input. The proposed index is related to a statistical problem of testing the significance of the input, and thus possesses some frequentist properties which the current sensitivity analysis methods do not have. Numerical simulations and a real application are presented to illustrate the proposed method.

Statistica Sinica