Abstract

"Statistical analysis of game theoretic models"

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au séminaire de Maths du **19 septembre 2024**

The objective of the seminar is to present a synthesis of contributions on the statistical analysis of data generated by game models. The basic model is defined by an observable random element X function of unobservable random element ξ and of its distribution F and is denoted $X = \sigma(\xi, F)$. The strategic function σ is known by the statistician, ξ is the private signal of the player and the dependence to F describes the strategic behavior of the player. This model may be illustrated by several auction models or procurement models or by contract models. This model generates a relation between F and the distribution G of X and the objective is to analyze the transformation of the estimation of G into the estimation of F the parameter of interest. For example, G is usually estimated at $\sqrt{n}$ speed but the rate of convergence of the estimation of F or of its derivative depends on the strategic function σ.