Differential privacy: optimal noise and data utility in SDC

Jordi Soria and Josep Domingo-Ferrer, Universitat Rovira i Virgili

Differential privacy characterizes privacy in data sets. This property is normally achieved via noise addition and, more specifically, via addition of Laplace noise. In this talk we will show some general limitations of the differential privacy concept and we will also show that Laplace noise is not the optimal noise to be used. We will also show that, if differential privacy is used for statistical disclosure control of numerical microdata, the utility of the resulting protected data is quite poor.