Data-driven scientific approach through Monte Carlo methods

*Koji Hukushima¹

1. University of Tokyo

Recently, the construction of a predictive model by data fitting has been extensively studied in a wide range of natural science. Introducing natural laws explicitly in the model is of great interest for understanding phenomena behind the data. It however complicates the analysis of data fitting. Here, we discuss some methodological explorations of simulation based fitting using Monte Carlo methods from the viewpoint of data-driven science.

Keywords: Data-driven science, Monte Carlo methods, inverse approach