REDUCED BASIS APPROACHES FOR THE BIG DATA FRAMEWORK

Yvon Maday^{1,2}

¹ Université Pierre et Marie Curie-Paris 6, UMR 7598, Laboratoire J.–L. Lions, F-75005 Paris, France, maday@ann.jussieu.fr
² Brown University, Providence, RI, USA

Key words: reduced basis, data assimilation, certified mathematical models, error estimate, empirical interpolation method

In this talk, I will present some recent results about the incorporation of data assimilation and numerical simulation of reliable mathematical models in order to provide new hints to tackle the so called "Big Data" problem.

This presentation is the synthesis of some papers listed below and some others currently in preparation.

REFERENCES

- Maday, Y., & Mula, O. (2013). A generalized empirical interpolation method: application of reduced basis techniques to data assimilation. In Analysis and Numerics of Partial Differential Equations (pp. 221-235). Springer Milan.
- [2] Maday, Y., Mula, O., & Turinici, G. (2013). A priori convergence of the Generalized Empirical Interpolation Method.