DATA-DRIVEN SIMULATION OF FLOW AND MULTI-PHYSICS PROBLEMS

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ABSTRACT

Data-driven simulation methods are becoming extremely important as a tool to get insight in complex flows and multi-physics problems [1]. Firmly rooted in advances in data science and scientific machine learning, data-driven methods are having a tremendous impact in digital twins, flow control, forecasting, and many other fields. The purpose of this mini-symposium is to gather experts from the computational fluid mechanics community, as well as applied mathematicians and computer scientists to discuss the advancements in data-driven methods for simulation of flow and multi-physics problems. Contributions are welcome in the applications of data-driven methods in challenging problems, new methods and algorithms, computational aspects such as adaptive mesh refinement and coarsening, parallelism, data management and I/O, and libraries to support such developments.

REFERENCES

[1] G. Rozza, G. Stabile, F. Ballarin, *Advanced Reduced Order Methods and Applications in Computational Fluid Dynamics,* SIAM, 2022.