Title: Recent Progresses in Derivative-Free Methods for Engineering Optimization

Practical engineering applications often require multidisciplinary optimization, through simulation. As a consequence, the objective function evaluation is frequently subject to numerical noise and/or presents non smoothness. Even in cases where the function to optimize is smooth, expensive evaluation could prevent the use of numerical techniques to approximate derivatives. Derivative-free Optimization (DFO) plays a crucial role in these practical applications.





In the last decades intense research has conducted to robust and efficient DFO methods, and currently good performance numerical implementations are available to the community. Nevertheless, there are still challenges in this scientific area. Global Optimization, Surrogate-based Optimization, Multiobjective Optimization, large-scale problems, just to give some examples, are still hot-topics inside the DFO community.

The purpose of this mini-symposium is to bring together researchers which develop and/or apply DFO techniques in engineering optimization. We welcome new theoretical developments in DFO methods as well as its application to real engineering problems.

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