INNOVATIVE METHODS FOR FLUID-STRUCTURE INTERACTION

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ABSTRACT

The objective of this Mini Symposium is to discuss progress and recent achievements in the numerical computation of fluid-structure-interaction problems, with an emphasis on new innovative formulations, methods and algorithms leading to faster, more accurate predictions and improved software design. The envisaged range of applications spans (but is not limited to) aero-elasticity, hydro-elasticity, biomechanical FSI and noise/structural acoustics. In particular, we welcome contributions in the vanguard of:

- error estimation;
- adaptive methods;
- immersed and unfitted methods;
- multiscale models;
- reduced order models and methods;
- novel iterative techniques;
- shape optimization and inverse methods;
- software engineering;

In addition, the Mini Symposium provides a platform for other state-of-the-art developments in FSI, such as those pertaining to FSI with auxiliary-field interactions, e.g. FSI problems with (massive) self contact, FSI problems with fracture (e.g. hydraulic fracturing, blast-induced FSI, etc.), and elasto-capillary FSI.