

ADVANCES IN STRUCTURAL AND MULTIDISCIPLINARY OPTIMIZATION

(1300 - INVERSE PROBLEMS, OPTIMIZATION AND DESIGN)

J.F.A. MADEIRA *, A.L. ARAÚJO †

* IDMEC/IST/UL and ADM/ISEL/IPL
IDMEC, Av. Rovisco Pais, 1049-001 Lisboa, Portugal
aguilarmadeira@tecnico.ulisboa.pt

† IDMEC/IST/UL
IDMEC, Av. Rovisco Pais, 1049-001 Lisboa, Portugal
aurelio.araujo@tecnico.ulisboa.pt

ABSTRACT

The purpose of this session is to bring together researchers who successfully develop techniques for solving structural and multidisciplinary optimization problems, focusing on both single and multi-objective problems. We encourage new research into all aspects of the optimal design of structures as well as multidisciplinary design optimization where the involved disciplines deal with the analysis of solids, fluids or other field problems.

This special session aims to provide a forum for researchers from theoretical developments for single or multi-objective optimization as well as their application for solving real engineering problems. Submissions presenting novel developments or critical reviews are welcome.

Contributions are invited on the following topics:

- Application of structural optimization in nanotechnology
- Application of structural optimization in computational design of materials
- Application of structural optimization for the design of mechanisms
- Application of structural optimization with peridynamics
- Optimization of composite and smart structures
- Sampling and surrogate modeling in design optimization
- Numerical optimization techniques
- Experimental optimization techniques
- Shape and topology optimization
- Surrogate-based optimization
- Multidisciplinary optimization
- Multi-objective optimization
- Robust and reliability-based design optimization