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2

Reliability-Based Design and Optimisation

AMAS Workshop – RBO'02
Warsaw, September 23-25, 2002

edited by

Stefan Jendo
Krzysztof Doliński
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Centre of Excellence for
Advanced Materials and Structures

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Foreword

These Proceedings contains lectures and communications given during the Workshop on *Reliability-Based Design and Optimisation RBO'02*. The Workshop took place in September 23-25, 2002 in Warsaw and was organized by the *Centre of Excellence for Advanced Materials and Structures (AMAS)*, the agenda of the *Institute of Fundamental Technological Research (IFTR)*. The coordinators of the Workshop were: Prof. Stefan Jendo, Prof. Michał Kleiber and Assoc. Prof. Krzysztof Doliński. The number of participants was approximately 50, mostly from Poland, including 17 from another countries like Czech Republic, Denmark, Germany, Italy, Japan, Portugal, Russia, Switzerland, UK and USA.

The Workshop allowed exchanging a recent experience in the range of analytical and computational procedures relevant to stochastic modelling of engineering structures. Lectures and communications were concerned with the following topics:

- reliability-based design
- reliability based optimisation
- stochastic computational mechanics
- response surface methodology
- stochastic load modelling
- deterioration and life cycle analysis
- modelling of structural systems

Presented applications came from the following areas: aeronautics, bridges, marine and offshore structures, pipelines, etc.

The keynote lectures on selected topics and short communications have given a seed for an open and thorough discussion. It is believed that the Workshop achievements allow accelerating a development of design methods based on stochastic modelling of engineering structures.

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