

Computational Methods and Experimental Measurements XI

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Preface

This book reviews the latest work on computational method and experimental measurements, and on the interaction between the two approaches. It contains the edited version of most of the papers presented at the 11th International Conference on Computational Methods and Experimental Measurements (CMEM 2003) held in Halkidiki, Greece.

This successful series of conferences started in Washington DC (1981); followed by meetings on board the Queen Elizabeth II ocean liner (1984); Port Carras, Greece (1986); Capri (1988); Montreal (1991); Siena (1993); Capri (1995); Rhodes (1997); Sorrento (1999) and Alicante (2001).

The conference provides a forum for scientists specialising in measuring techniques, either in laboratory experiments or in field studies, to communicate with researchers developing computer codes. This book contains the latest advances in the field and includes the following sections:

- Computational and analytical methods
- Computer interaction and control of experiments
- Damage mechanics
- Data acquisition and processing
- Dynamics and vibrations
- Electrical and electromagnetic applications
- Fluid mechanics
- Structural and stress analysis
- Thermal processes

The volume makes an important contribution to the orderly advance of both fields. As computer models become more professional and able to represent more realistic problems, they require detailed data leading to the development of better experiments. Scientists working in laboratory and field experiments produce challenging results which require, in some cases, different interpretation leading to the reformulation of the analytical tools used in established computer codes. The papers published in the book address those problems as well as the development of new methods of interaction between computers and experiments.

The editors are grateful to all the authors for their contributions and to those members of the International Scientific Advisory Committee who helped to review the papers.

The Editors
Halkidiki, 2003

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