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BALLISTICS II

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COMPUTATIONAL BALLISTICS

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Preface

This book contains most of the papers presented at the International Conference on Computational Ballistics held in Cordoba, Spain, in 2005 organised by the Wessex Institute of Technology in collaboration with the Universidad Politecnica de Madrid. The objective of the Meeting was to bring together engineers, scientists and managers from laboratories, industry, government and academia to interchange knowledge in the field of ballistics. The contents stressed the importance and possibilities of numerical simulation on internal, external and terminal ballistics, to describe, analyse, predict and subsequently reduce the experimental requirements in ballistics.

Ballistics as a science relates to a great variety of phenomena that occurs from the moment an object or projectile is fired until its effects are observed in a target. Ballistic studies include applications as varied as the study of the structural and control behaviour of rockets and satellites; strikes on aircraft, terrorist attacks and automobile crashworthiness modelling, to name but a few.

Many of the basic problems of ballistics are similar to those in other fields of applications, such as combustion, heat conduction, in-flight structural behaviour, trajectory related issues, contact, impact, penetration, structural response to shock waves and many others.

The developments in Ballistics are closely related to the Advances in Computational Mechanics but in spite of this, there are currently no open conferences other than the ones organised by the Wessex Institute of Technology on Computational Ballistics.

This book, which is an important addition to the literature, contains the following sections:

- Terminal ballistics
- Fluid-structure interaction
- Perforation and penetration mechanics
- High rate loads, shock and impact
- Interior ballistics
- Fluid flow and Aerodynamics
- Systems and Technology

The organisers are grateful to the members of the International Scientific Advisory Committee who have helped in selection of the papers included in this book. The quality of the material makes this volume a most valuable tool for scientists and research workers in the field to appreciate the state of the art in this important discipline.

The Editors, Cordoba, 2005

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