Structures Under Shock and Impact VIII

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STRUCTURES UNDER SHOCK AND IMPACT

SUSI VIII

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Preface

This book contains the papers that were presented at the Eighth International Conference on Structures Under Shock and Impact held in Crete, Greece, March 2004. The earlier meetings were held in Cambridge, Massachusetts, USA in 1989, Portsmouth, UK in 1992, Madrid, Spain in 1994, Udine, Italy in 1996, Thessaloniki, Greece in 1998, Cambridge, U.K. in 2000 and Montreal, Canada in 2002. It was the objective of these meetings to bring active research workers together from a wide-range of academic and industrial backgrounds associated with the shock and impact response of structures and materials. In this way, the major developments in different areas can be brought to the attention of the entire community, thereby ensuring that industries benefit from the latest knowledge.

The shock and impact behaviour of structures is a challenging area, not only because of the obvious time-dependent aspects, but also because of the difficulties in specifying the external dynamic loading characteristics and in obtaining the dynamic properties of materials. Thus, it is important to recognise and utilise fully the contributions and understanding emerging from theoretical, numerical and experimental studies on structures, as well as investigations into the material properties under dynamic loading conditions.

The papers presented in this volume reflect the broad range of practical interest in the shock and impact response of structures. The topics include various aspects of protection, such as the protection of buildings from explosive loadings and the protection of passengers in cars and coaches through structural energy absorbing systems. Other articles examine the response of concrete, composite and metal structures as well as fibre-metal laminates under a variety of impact and blast loadings. Individual papers focus on seismic loadings, missile penetration, energy absorbing systems, structural crashworthiness and other important industrial problems some of which are studied using numerical schemes. Several papers have examined the dynamic properties of materials.

It is clear from the collection of papers in this volume that the shock and impact behaviour of structures is an active field and that the range of topics is ever expanding when viewed from the perspective of the eight conferences. This situation bodes well for the future growth of the subject, particularly since 9/11. It is hoped that the contents of this book will encourage and

motivate many research workers and designers to apply the methods presented to new practical problems and to contribute, in due course, to our better understanding of the shock and impact behaviour of structures to the benefit of the entire community.

The Editors
Crete, 2004

Contents

Section 1: Impact and blast loads

Section 2: Protection of structures from blast loads

Section 3: Missile penetration and explosion

Section 4: Seismic engineering applications

Section 5: Energy absorbing studies

Section 6: Crashworthiness and impact biomechanics

Section 7: Behaviour of structural concrete