1. Record Nr. UNINA9910454069903321

Titolo	Engineering plasticity and impact dynamics [[electronic resource]] : the 60th birthday volume in honour of Professor Tongxi Yu, proceedings of the International Symposium on Plasticity and Impact (ISPI 2001), Zhuhai, China, 28-30 December 2001 / / editor, Liangchi Zhang ; organised by Department of Mechanical Engineering, Hong Kong University of Science and Technology
Pubbl/distr/stampa	River Edge, NJ ; ; Hong Kong, : World Scientific, c2001
ISBN	1-281-93447-X 9786611934477 981-279-453-0
Descrizione fisica	1 online resource (352 p.)
Altri autori (Persone)	YuT. X <1941-> (Tongxi) ZhangL. C (Liangchi)
Disciplina	620.1/1233
Soggetti	Impact Plastic analysis (Engineering) Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Foreword; About Professor Tongxi Yu; Contents; Plasticity and Applications; 1. Wrinkling of elastic-linear strain-hardening annular plates in relation to deep-drawing processes; 2. Localized bifurcation criteria for elastoplastic materials; 3. Cellular textile composite: configuration and energy absorption mechanisms; 4. Some problems involving large plastic deformation and ductile tearing; 5. Metal tube under lateral compression; 6. Applications of cellular materials and structures in vehicle crashworthiness and occupant protection 7. Modelling the mechanical behaviour of biodegradable foams - from physical fundamentals to applications8. Nonlinear microstructural constitutive equation of nanocrystalline metals; Impact Dynamics; 9. Experimental and theoretical study of elastic-plastic impact force history; 10. Penetration and perforation into metallic targets by a non-deformable projectile; 11. Modelling and analysis of elastic wave

propagation in FRCs; 12. Effects of stress wave propagation on the dynamic buckling of elastic-plastic structures; Others; 13. Thermal and mechanical effects of laser irradiation on targets
14. Dimensional analysis: A different perspective to design aluminum alloys concerning intergranular fracture15. Some basic problems of microdynamics of solids; 16. Tensile fracture in Al foils acted by laser pulses; 17. Mechanical erosion of boiler tubes: Mechanism and formulation; List of publications; Author contact details; Author index

Sommario/riassunto

Plasticity and impact dynamics are two important areas in engineering practice, which includes structural engineering, crashworthiness, metal formation and new structural materials. The application of engineering plasticity and impact dynamics has resulted in significant achievements both technically and economically. This book presents the state-of-the-art developments in the above fields. It contains over 15 chapters written by experts in engineering plasticity and impact dynamics. It covers a wide range of theoretical developments and engineering applications, including fundamentals of ener