



Full-Field Measurements and Identification in Solid Mechanics

By Michel Grediac, Francois Hild

ISTE Ltd and John Wiley & Sons Inc. Hardback. Book Condition: new. BRAND NEW, Full-Field Measurements and Identification in Solid Mechanics, Michel Grediac, Francois Hild, This timely book presents cutting-edge developments by experts in the field on the rapidly developing and scientifically challenging area of full-field measurement techniques used in solid mechanics -- including photoelasticity, grid methods, deflectometry, holography, speckle interferometry and digital image correlation. The evaluation of strains and the use of the measurements in subsequent parameter identification techniques to determine material properties are also presented. Since parametric identification techniques require a close coupling of theoretical models and experimental measurements, the book focuses on specific modeling approaches that include finite element model updating, the equilibrium gap method, constitutive equation gap method, virtual field method and reciprocity gap method. In the latter part of the book, the authors discuss two particular applications of selected methods that are of special interest to many investigators: the analysis of localized phenomenon and connections between microstructure and constitutive laws. The final chapter highlights infrared measurements and their use in the mechanics of materials. Written and edited by knowledgeable scientists, experts in their fields, this book will be a valuable resource for all students, faculties...



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Reviews

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