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Sommario/riassunto	This book presents a novel approach to the classical scientific discipline of Structural Engineering, which is inspired by numerous current applications from domains of Civil, Mechanical or Aerospace Engineering. The main goal of this book is to help with making the best choice between accuracy and efficiency, when it comes to building the most suitable structural models by practising engineers using modern computational tools available in commercial software products (SAP, FEAP, ANSYS …) for which we have carried out many developments that

have been become the main reference in the field. Any development of this kind is not a mere modification of discrete approximation, but a thorough treatment with a sound theoretical formulation based upon Hu-Washizu variational principle with independent rotation field, its corresponding regularization and finally the most appropriate finite element interpolation that can match those used for structural elements. Proposed approach allows us toprovide a unified discrete approximation of complex structural assemblies and greatly simplify the modeling task for structural engineers. Thus, in conclusion, this book can also be perceived as the theoretical manual for using modern computer models successfully by practising engineers.