Combinatorial Rigidity

Jack Graver, Syracuse University, NY, and Brigitte Servatius and Herman Servatius, Worcester Polytechnic Institute, MA

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This book presents rigidity theory in a historical context. The combinatorial aspects of rigidity are isolated and framed in terms of a special class of matroids, which are a natural generalization of the connectivity matroid of a graph. This book includes an introduction to matroid theory and an extensive study of planar rigidity. The final chapter is devoted to higher-dimensional rigidity, highlighting the main open questions. Also included is an extensive annotated bibliography with over 150 entries. This book is aimed at graduate students and researchers in graph theory and combinatorics or in fields which apply the structural aspects of these subjects in architecture and engineering. Accessible to those who have had an introduction to graph theory at the senior or graduate level, this book is suitable for a graduate course in graph theory.

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