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Engineering : Machinery and Machine Elements

Arakelian, Vigen, Briot, Sébastien

Balancing of Linkages and Robot Manipulators

Advanced Methods with Illustrative Examples

- An exhaustive state of the art on balancing with corresponding illustrations
- Proposes the most advanced methods for balancing of linkages and robot manipulators
- The book is of interest for both mechanical engineers and researchers

In this book advanced balancing methods for planar and spatial linkages, hand operated and automatic robot manipulators are presented. It is organized into three main parts and eight chapters. The main parts are the introduction to balancing, the balancing of linkages and the balancing of robot manipulators. The review of state-of-the-art literature including more than 500 references discloses particularities of shaking force/moment balancing and gravity compensation methods. Then new methods for balancing of linkages are considered. Methods provided in the second part of the book deal with the partial and complete shaking force /moment balancing of various linkages. A new field for balancing methods applications is the design of mechanical systems for fast manipulation. Special attention is given to the shaking force/moment balancing of robot manipulators. Gravity balancing methods are also discussed. The suggested balancing methods are illustrated by numerous examples.

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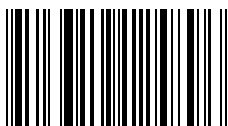
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