

Contents

<i>Preface</i>	v
<i>About the Authors</i>	ix
1. Robotic Grasp and Workpiece-Fixture Systems	1
2. Singular-Value Decomposition and Its Application	13
3. Qualitative Analysis and Quantitative Evaluation of Form-Closure Grasping/Fixturing	27
4. Stability Index and Contact Configuration Planning of Force-Closure Grasping/Fixturing	47
5. Active Grasp Force Planning	65
6. Grasp Capability Analysis	85
7. Compliant Grasping with Passive Forces	99
8. Kinematics of Contacts and Rolling Manipulation	129

9. Dynamic Stability of Grasping/Fixturing	155
10. Locating Error Analysis and Configuration Planning of Fixtures	173
11. Clamping Planning in Workpiece-Fixture Systems	221
12. Design and Implementation of Anthropomorphic Hand for Replicating Human Grasping Functions	253
13. Mechanical Implementation of Kinematic Synergy for Continual Grasping Generation	295
<i>Index</i>	329