

Contents

1	Introduction	1
	Jason J. Gorman and Benjamin Shapiro	
2	Feedback Control of Particle Size Distribution in Nanoparticle Synthesis and Processing	7
	Mingheng Li and Panagiotis D. Christofides	
3	In Situ Optical Sensing and State Estimation for Control of Surface Processing.....	45
	Rentian Xiong and Martha A. Grover	
4	Automated Tip-Based 2-D Mechanical Assembly of Micro/Nanoparticles.....	69
	Cagdas D. Onal, Onur Ozcan, and Metin Sitti	
5	Atomic Force Microscopy: Principles and Systems Viewpoint Enabled Methods	109
	Srinivasa Salapaka and Murti Salapaka	
6	Feedback Control of Optically Trapped Particles	141
	Jason J. Gorman, Arvind Balijepalli, and Thomas W. LeBrun	
7	Position Control of MEMS	179
	Michael S.-C. Lu	
8	Dissecting Tuned MEMS Vibratory Gyros	211
	Dennis Kim and Robert T. M’Closkey	
9	Feedback Control of Microflows	269
	Mike Armani, Zach Cummins, Jian Gong, Pramod Mathai, Roland Probst, Chad Ropp, Edo Waks, Shawn Walker, and Benjamin Shapiro	
10	Problems in Control of Quantum Systems.....	321
	Navin Khaneja	

**11 Common Threads and Technical Challenges
in Controlling Micro- and Nanoscale Systems 365**
Benjamin Shapiro and Jason J. Gorman

Index 377



<http://www.springer.com/978-1-4419-5831-0>

Feedback Control of MEMS to Atoms

Gorman, J.J.; Shapiro, B. (Eds.)

2012, VIII, 384 p., Hardcover

ISBN: 978-1-4419-5831-0