



Microrobotics for Micromanipulation

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DESCRIPTION

Microrobotics for Micromanipulation presents for the first time, in detail, the sector of robotics for handling objects of micrometer dimensions. At these dimensions, the behavior of objects is significantly different from the better known, higher scales, which leads us to implement solutions sometimes radically different from those most commonly used. This book details the behavior of objects at the micrometer scale and suitable robotics solutions, in terms of actuators, grippers, manipulators, environmental perception and microtechnology. This book includes corrected exercises, enabling engineers, students and researchers to familiarize themselves with this emerging area and to contribute to its development through scientific measures.

ABOUT THE AUTHOR

Nicolas Chaillet is Professor at the University of Franche-Comté and conducts research at the Institut Femto-ST. His research interests are in microrobotics and more generally in micromechatronics fields, particularly in micromanipulation and microassembly, microgrippers, smart materials, modeling and control of microactuators.

Stéphane Régnier is Professor at the Institute of Intelligent Systems and Robotics (ISIR), Pierre and Marie Curie University, Paris, France. He has been head of the micromanipulation team at ISIR since 2001. His research interests are focused on micro and nanomanipulation, tele-operation and haptic feedback at the nanoscale, micromechatronics and biological cell characterization.

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