



applied sciences



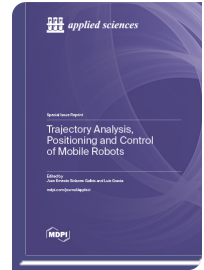
Special Issue Reprint

Trajectory Analysis, Positioning and Control of Mobile Robots

www.mdpi.com/books/reprint/10939

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ISBN 978-3-7258-3245-3 (Hardback)
ISBN 978-3-7258-3246-0 (PDF)



The aim of this reprint is to explore and highlight the recent advancements and interdisciplinary approaches in the field of mobile robotics, focusing on trajectory analysis, positioning, and control. This Special Issue features a curated selection of cutting-edge studies, ranging from the development of novel odometry systems for challenging environments to the integration of augmented and virtual reality technologies for enhanced robot teleoperation and human–robot collaboration. The research presented includes breakthroughs in autonomous navigation, such as innovative SLAM techniques for dynamic and GPS-denied environments, deep reinforcement learning approaches for exploration, and advanced control strategies for trajectory optimization in complex scenarios. Additionally, contributions delve into the implementation of mobile robots in real-world applications, including smart manufacturing, disaster response, and healthcare, emphasizing their adaptability and efficiency. By bridging diverse disciplines like artificial intelligence, control theory, and human–computer interaction, this reprint not only showcases the latest technological progress but also sets the stage for future innovations. Each study provides valuable insights into refining mobile robotic systems to seamlessly integrate into human environments, enhancing safety, usability, and performance. This collection is a testament to the transformative potential of mobile robotics to address contemporary challenges and create a more intelligent, connected, and efficient world.



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