



Andreas Nüchter

3D Robotic Mapping

The Simultaneous Localization and Mapping Problem with Six Degrees of Freedom

Series: Springer Tracts in Advanced Robotics

- Complete treatment of 3 dimensional robotic mapping
- Presents the Simultaneous Localization and Mapping Problem with Six Degrees of Freedom
- Presents the algorithms needed for automatic semantic 3D map building using a 3D laser range finder and the mobile robot Kurt3D

Focuses on acquiring spatial models of physical environments through mobile robots. The robotic mapping problem is commonly referred to as SLAM (simultaneous localization and mapping). 3D maps are necessary to avoid collisions with complex obstacles and to self-localize in six degrees of freedom (x-, y-, z-position, roll, yaw and pitch angle). New solutions to the 6D SLAM problem for 3D laser scans are proposed and a wide variety of applications are presented.

2009, XIX, 204 p.

Printed book

Hardcover

169,99 € | £149.99 | \$219.99

[1]181,89 € (D) | 186,99 € (A) | CHF

200,50

Softcover

140,17 € | £99.99 | \$159.99

[1]149,98 € (D) | 154,19 € (A) | CHF

165,50

eBook

117,69 € | £79.50 | \$119.00

[2]117,69 € (D) | 117,69 € (A) | CHF

132,00

Available from your library or

springer.com/shop

MyCopy [3]

Printed eBook for just

€ | \$ 24.99

springer.com/mycopy

Order online at springer.com / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: customerservice@springernature.com. / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: customerservice@springernature.com.

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.

