



## Visual Control of Wheeled Mobile Robots : Unifying Vision and Control in Generic Approaches

By Héctor . M Becerra

Springer International Publishing Apr 2014, 2014. Buch. Condition: Neu. Neuware - Vision-based control of wheeled mobile robots is an interesting field of research from a scientific and even social point of view due to its potential applicability. This book presents a formal treatment of some aspects of control theory applied to the problem of vision-based pose regulation of wheeled mobile robots. In this problem, the robot has to reach a desired position and orientation, which are specified by a target image. It is faced in such a way that vision and control are unified to achieve stability of the closed loop, a large region of convergence, without local minima and good robustness against parametric uncertainty. Three different control schemes that rely on monocular vision as unique sensor are presented and evaluated experimentally. A common benefit of these approaches is that they are valid for imaging systems obeying approximately a central projection model, e.g., conventional cameras, catadioptric systems and some fisheye cameras. Thus, the presented control schemes are generic approaches. A minimum set of visual measurements, integrated in adequate task functions, are taken from a geometric constraint imposed between corresponding image features. Particularly, the epipolar geometry and the trifocal tensor are...

DOWNLOAD



READ ONLINE

[ 4.86 MB ]

### Reviews

*This is the very best book i actually have read till now. It is loaded with knowledge and wisdom I am just easily could get a satisfaction of reading a created ebook.*

-- **Ena Huel**

*A very awesome ebook with perfect and lucid explanations. I could possibly comprehended every thing using this written e pdf I am happy to explain how this is basically the best ebook i have got read inside my personal life and may be he very best book for ever.*

-- **Mr. Santa Rath**