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BOOK REVIEW

Introduction to Robotics, by Tadej Bajd, Matjaž Mihelj and Marko Munih, Springer Briefs in Applied Sciences and Technology, Springer, Dordrecht 2013, vii + 83 pp., ISBN 978-94-007-6100-1, doi: 10.1007/978-94-007-6101-8.

The book is devoted to robot geometry and may serve as an useful tool to those who need basic information and guide to the kinematics of robot motion.

First Chapter - *Introduction*, gives an information about different groups of robots and how they are described in the literature. Contemporary robotics is a field of research of intelligent moving systems. Some of them copy the movement of various living organisms. In another group are robotic systems whose movement was invented by humans: mobile robots (wheeled vehicles), underwater robots (like smaller autonomous submarines), flying robots (smaller autonomous aerial vehicles applied for reconnaissance missions).

Biologically, the authors divide the robots in two groups: robot mechanisms which copy the human movements (robot arms, multi-fingered grippers, bipedal robot systems) and mechanisms inspired by the world of animals (snake robots, robotic fishes, robots imitating the movements of quadrupeds, six-legged and eight-legged spiders).

In this chapter, the robots are considered as serial chains of rigid bodies and joints, where each body is connected to two neighboring bodies. It is important the fact that six parameters are required to describe the position of an object in the space - three for orientation and three - for the position. The basic reference frames (they are four) used for describing the system motions are introduced. The first one x_0, y_0, z_0 is the base reference frame, fixed in space. The last one - x_n, y_n, z_n is at the end of the chain, also called robot end-point frame, or end-effector frame, and it is displaced when the robot is in motion. The other important frames are the both which are attached to two neighboring segments of the chains, namely: $x_{i-1}, y_{i-1}, z_{i-1}$ and x_i, y_i, z_i. The joints in the chain are rotational (R) or translational (T) and each joint has one degree of freedom. The Denavit-Hartenberg formalism and the 4×4 homogeneous transformation matrices are going to be