
Inertia drive in the equations of motion of manipulation robots

© O.N. Krakhmalev

Enterprise Industrial Safety – Bryansk State Technical University,
Bryansk, 241035, Russia

The equations of motion of manipulation robots take into account the inertia of the drive. The equations are derived from the Lagrange equations and matrices of homogeneous coordinates. Equations can determine the efforts developed by the drives, and local efforts to links manipulation system. Matrix of gyroscopic moments is singled out in the equations. The matrix reflects the effect of drives inertia on the motion of the links of manipulation systems. The equations have a matrix structure, convenient for computer simulation.

Keywords: robots, manipulation systems, inertia drives, the equations of motion.

Krakhmalev O.N. (b. 1964) graduated from Bryansk Institute of Transport Engineering in 1991. Chief expert at the Industrial Safety Enterprise of Bryansk State Technical University, assoc. professor of the Automated Technological Systems Department in the Bryansk State Technical University. Research interests – robotic manipulator dynamics. The author of 14 publications, including one monograph, 11 articles and two abstracts. e-mail: olegkr64@mail.ru.