

SUMMARY

The degree project includes a 93 pages 7 main parts, 36 figures, 12 tables, 15 of the source literature, 4 apps and 3 sheets of A1 size.

In this diploma project, an analytical review of modern manipulation systems is conducted. The mathematical description of the manipulator is developed, namely, the direct kinematics; inverse kinematics, velocity kinematics, the dynamics of the manipulator. A laboratory stand is developed, as well as guidelines for laboratory work. An example of solving a problem for laboratory work is developed and executed. The simulation of the manipulator is executed, namely the task of moving the object.

Calculation and realization of this diploma project was provided by using the following software: *MATLAB R2009b, Microsoft Office Word 2010, Microsoft Office Visio 2010, MathType 6.9, Simulink SimMechanics, KOMPAS-3D V16.*

MANIPULATOR, STEPPER MOTOR, DENAVIT-HARTENBERG
PARAMETERS, KINEMATICS, ARDUINO.

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