

## **Data-driven control of the second order inertial systems with astaticism**

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### **Abstract**

*In order to realize an efficient synthesis of the control algorithm, it is necessary to be known the mathematical model of the control object. This paper deals with the problem of data-driven control of second order inertial systems with astaticism, that supposes an experimental identification of the mathematical model in the closed-loop and algorithm for synthesis the PD and PID controllers. The control algorithm was synthesized according to the maximum stability degree method with iterations. The closed-loop identification method and synthesis algorithms of the PD and PID controllers were verified by computer simulation in MATLAB and there are obtained good results in model estimation and the tuning of the PD and PID controllers.*

**Keywords:** *data driven control, mathematical modelling, inertial systems*

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