

IMPLEMENTATION OF MATHEMATICAL MODEL
OF LOW-PRESSURE MERCURY DISCHARGE LAMP
IN MATLAB/SIMULINK SOFTWARE

Antoni RÓŻOWICZ
Sebastian RÓŻOWICZ
Mariusz DELĄG

ABSTRACT *Knowledge of voltage-current characteristics and their mathematical model description is needed to correct design of low pressure mercury discharge lamp systems (lamp, stabilizing and ignition system). Mathematical model showed in this paper causes possibility to optimal design of work lamp systems. It is very important in aspect of increasing system energy efficiency. Measurements on group of discharge lamps together with computer simulations are used to preparation of mathematical model. Conformity with measurements data is confirmed by verification of simulation results. The model implemented in Simulink is showed in the paper. Implemented module can be used to build and develop new ignition systems.*

Keywords: *low-pressure mercury discharge lamp, ignition system, mathematical model, Simulink*