Szymkat, Maciej; Miller, Janusz; Piwowarczyk, Jacek

D2M — a package for computer aided design of control systems. (Polish. English, Russian summaries) Zbl 0753.93002

Summary: A computer package (D2M) is developed for generation of models of automatic control systems on the basis of graphic representation of their structure and symbolic description of input-output relations. This paper presents description of the package. The package works with the standard PC-MATLAB programming environment. It consists of three programmes: structure editor (SE), description editor (DE), and model generator (MG). The structure editor edits block diagrams of model created. Description editor defines and modifies mathematical description of input-output relations in individual blocks. Model generator performs reduction of the block diagram, describes it in terms of algebraic relations and generates source programmes describing the model in the MATLAB programming environment language. The D2M package enables the user to express the abstract concept of a model in terms of graphical and mathematical symbols in a way that resembles traditional design of automatic control systems by means of block diagrams and mathematical formulae.

MSC:
93-04 Software, source code, etc. for problems pertaining to systems and control theory
93B40 Computational methods in systems theory (MSC2010)
68U07 Computer science aspects of computer-aided design

Keywords:
models of automatic control systems

Software:
Matlab