Informatika i sistemy upravleniya. – 2016. – No. 1(47). – P.65-72.

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FORMULATING THE STATE EQUATIONS OF ELECTRONIC CIRCUITS WITH CONSTANT AND VARIABLE PARAMETERS BY A UNIFIED ALGORITHM. I

The article deals with a unified algorithm for deriving equations of state variables of electronic devices with constant and variable (time) component parameters. The basis of the algorithm is a method of state variables, which allows you to create a system of differential equations defining the schemes in general, taking into account the possible circuit features. In the first part of the article the algorithm is used to generate the equations of state variables of the electronic devices with constant parameters of components. It is shown that eventually the algorithm reduces to machine filling of block matrices of structural and parametric matrices of electrical circuits that converts an algorithm into the category of fast algorithms.

Keywords: algorithm, equation of state variables, electronic devices, forming, special shapes and cross sections.

DOI: 10.22250/isu.2016.47.65-72

For citation:

Chye En Un, Shein A.B. FORMULATING THE STATE EQUATIONS OF ELECTRONIC CIRCUITS WITH CONSTANT AND VARIABLE PARAMETERS BY A UNIFIED ALGORITHM. I
// Informatika i sistemy upravleniya. – 2016. – No. 1(47). – P.65-72.