Identification of nonlinear objects and control systems by using matrix operators

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In the work we propose an algorithm for parametric identification of nonlinear objects of control. The algorithm is based on the idea of phase space extension of the identified object vector of unknown parameters. We use the matrix of operators, linearization of extended nonlinear system of equations according to the scheme of Newton–Kantorovich, suggesting some iterative process of finding identifiable parameters on the criterion that ensures the proximity of the release of the real object to the output of its mathematical model. The algorithm application is illustrated by an example of parameters identification of the electro-hydraulic drive.

Keywords*: identification, nonlinear object, operator, criterion, parameterization, drive****.***

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