

**Informatika i sistemy upravleniya. – 2016. – No. 3(49). – P. 86-96.**

**Kudinov Yu. I.** ([kui\\_kiu@lipetsk.ru](mailto:kui_kiu@lipetsk.ru)), **Kolesnikov V.A.** ([valentinn48@ya.ru](mailto:valentinn48@ya.ru)), **Durgaryan I.S.** ([pif-70@yandex.ru](mailto:pif-70@yandex.ru)), **Paschenko A.F.** ([paschenko\\_alex@mail.ru](mailto:paschenko_alex@mail.ru)), **Belova O.N.** ([pif-70@yandex.ru](mailto:pif-70@yandex.ru))  
Lipetsk state technical university

#### DESIGN AND PARAMETERIZATION OF FUZZY ADAPTIVE PID CONTROLLER

The article deals with the construction and parameterization of adaptive fuzzy PID controllers, which are widely used in automatic control systems of technological processes in the energy sector. We proposed fuzzy method of adaptation of controller settings that takes into account nonlinear object properties and described the parameterization procedure of a fuzzy controller using SIMULINK and MATLAB.

**Keywords:** PID controller, fuzzy PID controller, nonlinear object, block of fuzzy adaptation, controller parameters, quality of regulation, transition process.

**DOI: 10.22250/isu.2016.49.86-96**

*For citation:*

**Kudinov Yu. I., Kolesnikov V.A., Durgaryan I.S., Paschenko A.F., Belova O.N.** DESIGN AND PARAMETERIZATION OF FUZZY ADAPTIVE PID CONTROLLER // *Informatika i sistemy upravleniya.* – 2016. – No. 3(49). – P. 86-96.