Digital Adaptive Controller for Controlled Objects of the Third Order

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Abstract. The paper showed the possibility of creating a digital adaptive controller based on optimal digital control and serial digital adaptive equalizer of dynamic characteristics of automatic control systems with a phase advance. It was found that the use of such digital adaptive controller can significantly improve the quality of transient processes in non-stationary objects of automatic control systems. It is concluded that such a system it is advisable to use both in the regulation of technological parameters of non-stationary objects, and in the regulation of technological parameters of stationary objects that come perturbations that lead to oscillations of the controlled variable with an amplitude exceeding permissible one.

Key words: Digital regulator, corrector of dynamic characteristics of automatic control systems with phase advance, the quality of regulation, regulation transient object.

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