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EXTREME CONTROL SYSTEM FOR PUMP COMPLEX BY THE CRITERION OF MAXIMUM EFFICIENCY

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Abstract

The criterion of maximum efficiency of extreme automatic control system for pumping complex, which takes into account the requirements of the technological process, specific energy consumption and resource consumption of electrohydraulic equipment, are proposed. The choice of the weight coefficients of the optimality criterion is justified. A structural diagram of the model of an extreme control system for pumping complex of step type with a search algorithm is developed. The energy efficiency of proposed system is analyzed with a pressure stabilization system at the control point of a pipeline network based on a PID controller. The effect of the duration pump operation on the energy characteristics of the pump complex was estimated. References 10, figures 5.

Key words: pumping complex, extreme control system, maximum efficiency.

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