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THE INTELLECTUAL CONTROL SYSTEM WITH ROBUST REGULATOR

Problems of highly efficient and highly automated control of fractionating column with indirect action are dictated by objective desire to improve and stabilize the quality of products and processes to reduce energy consumption in alcohol industry.

One of the possible solutions to this problem is to create intellectual control system with robust regulators.

The proposed system operates on the basis of the generalized system structure with intellectual control, which consists of control installation, measurement and information tools, algorithms control, knowledge base, the influence of environmental factors block, the mechanisms of inference and actuators. And the control algorithm is based on the robust regulator that stores stock stability at work in a different kind of uncertainties.

Intellectual system of this design reduces the system sensitivity to the uncertainties in grout's rectification operation parameters installation, external disturbances acting on the object, change the time delay through the control and disturbance, and thus ensures the quality of regulation in a given complex unsteady modes of installation. In the working process of fractionating column the control system can be supplemented by resource of learning to ensure generalization of accumulated experience and on this ground to replenish the knowledge base.

The proposed method should be easily implemented by software-technical way and applied in existing automated control systems for fractionating column of indirect action and should not require for its implementation and control of additional equipment, additional channels of measurement signals or special sensors.

KEY WORDS: *fractionating column, intellectual control system, robust regulators*