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REPETITIVE ROBUST CONTROL SYSTEM FOR A CLASS OF NONLINEAR UNDEFINED PLANTS WITH INPUT SATURATION

The paper describes the process of synthesizing algorithms for a periodic robust control system for a nonlinear single-channel plants with saturation of the control input. The hyperstability criterion is used under conditions of structural-functional-parametric uncertainty. The design of the robust control law at parametric, functional, structural uncertainties and permanent noise relies on the hyperstability criterion and the conditions of *L*-dissipativity. The simulation is used to examine the quality of the proposed robust control system.
Keywords: repetitive control system, robust controller, generator of periodic signals, hyperstability criterion, correction filter, *L*-dissipativity, uncertainty.

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