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APPROXIMATION OF SECTIONS OF THE SET OF TRAJECTORIES FOR A CONTROL SYSTEM WITH BOUNDED CONTROL RESOURCES

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The approximation of the set of trajectories is studied for a control system described by the Urysohn integral equation. It is assumed that the system has limited control resources. The closed ball of the space L_p, $p > 1$, with radius r centered at the origin is chosen as the set of admissible control functions. The set of admissible control functions is replaced step by step by a set that consists of a finite number of control functions and generates a finite number of trajectories. It is proved that sections of the set of trajectories can be approximated by sections of a set consisting of a finite number of trajectories.

Keywords: Urysohn integral equation, control system, integral constraint, set of trajectories, approximation.

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