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## AN ESTIMATION PROBLEM WITH SEPARATE CONSTRAINTS ON INITIAL STATES AND DISTURBANCES

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Questions of approximation of a guaranteed estimation problem with geometrically bounded initial states and integrally bounded in the space  $L_2$  disturbances in the system and in the measurement equation are considered. The problem is reduced to an optimal control problem without state constraints and to the application of Pontryagin's maximum principle. A discrete multistep system is indicated for which the information set converges in the Hausdorff metric to the corresponding information set of a continuous system as the partition step converges to zero. In contrast to the general case, under the specified conditions, the information set can be constructed as a reachable set of a special system. A numerical example is given.

Keywords: guaranteed estimation, filtering, maximum principle, information set, reachable set.

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