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The paper discusses a possibility of applying one of the fundamental modern optimization methods, namely, the Pontryagin's method for solving process control problems, whose behavior is described by the diffusion equation.

The parabolic diffusion equation is discretized by the method of straight lines and comes to a closed system of ordinary differential equations, which allow finding an optimal control impact in terms of operating speed.

The existence of a solution to the problem of optimal control of fog diffusion is proved for the mentioned sampling. The methodology for finding control action switching points is substantiated, the calculations for the revealed two and three switching moments are performed.

Keywords: Pontryagin's method, fog diffusion control, diffusion equation

Fig. 3. Ref. 11.