Adaptive Control

$$\dot{x} = Ax + Bu + Cv,$$

$$x \in R^m, \quad u \in P \subset R, \quad v \in R,$$

$$t \in [0, \theta]$$

weak disturbance => **weak useful control, which steers the system near the center of the target set**

disturbance of "average level" => **extremal useful control, which steers the system to the given target set, possibly, closely to its border**

"strong" disturbance => **extremal useful control; system comes outside the target set, but the miss is minimized**

Ganebnyi S.A, Kumkov S.S. and V.S.Patsko. Control design in problems with an unknown level of dynamical disturbance, Journal of Applied Mathematics and Mechanics, 2006, vol. 70, issue 5, pp. 680-695; transl. from Prikl. Math. Mekh., 2006, vol. 70, issue 5, pp. 753-770 (in Russian).