

51. Zvi Artstein, **Chattering linear systems: A model of rapidly oscillating coefficients**. Mathematics Control Signals Systems 2 (1989), 359-380.

Abstract. We introduce linear control systems, termed chattering systems, which model instantaneous oscillations in the control parameters. Such systems serve as a limit case of systems with rapidly oscillating control parameters, which can be analyzed as perturbations from the chattering model. Several optimization and regulation problems for chattering systems are examined, along with the robustness property; the possibility of employing the solutions of the chattering case in the rapidly oscillating approximations. The theory is demonstrated on an example of an armature-controlled dc motor.

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