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Stability and stabilization of motion with respect to a part of the variables. (Ustojchivost' i stabilizatsiya dvizheniya po otnosheniyu k chasti peremennyk). (Russian) Zbl 0626.70021
Moskva: "Nauka". Glavnaya Redaktsiya Fiziko-Matematicheskoy Literatury. 256 p. R. 2.40 (1987).

The problem of stability of a motion with respect to a part of variables is considered. The book consists of the introduction, 9 main chapters and an appendix. One can divide the main chapters into three parts. The first part includes chapters 1,2 and is an introduction into the problem of stability of a motion with respect to a part of the variables. It contains general theorems of Lyapunov functions method and also applications of these theorems to mechanical problems. In the second part, which includes chapters 5-7, aspects of asymptotical stability are considered. In the third part, containing chapters 8,9, applications of differential inequalities and stability of first approximation are considered. In the appendix properties of solutions of differential equations, connected with the problems in question are considered.

Reviewer: N.A.Lar'kin

MSC:

70K20 Stability for nonlinear problems in mechanics
70-02 Research exposition (monographs, survey articles) pertaining to mechanics of particles and systems

Cited in **1** Review
Cited in **110** Documents

Keywords:

stability of a motion; Lyapunov functions; asymptotical stability; stability of first approximation