

[Chuiko, S. M.](#)

Solution of the Lyapunov matrix equations. (Russian. English summary) Zbl 1313.34043
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Summary: The Lyapunov matrix equations are widely used in the theory of stability of motion, as well as for the solution of Riccati differential equations. The structure of the general solution of the homogeneous part of the Lyapunov equation is well studied, while the solution of the inhomogeneous Lyapunov equation is quite cumbersome. We propose a formula for constructing a particular solution of the inhomogeneous Lyapunov equation.

MSC:

[34A34](#) Nonlinear ordinary differential equations and systems

Cited in **14** Documents

Keywords:

[Lyapunov matrix equation](#); [Riccati matrix equation](#); [pseudoinverse operator](#)