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THE RICCATI EQUATION FOR AUTONOMOUS LINEAR SYSTEMS WITH UNBOUNDED AFTEREFFECT

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The problem of optimal stabilization for autonomous linear systems of differential equations with unbounded aftereffect is considered. The reduction of the solvability problem for the Riccati operator equation to the analogous problem for the Riccati functional–differential equation is proved. A class of systems of differential equations with unbounded aftereffect for which the Riccati functional–differential equation can be solved analytically is described.

Keywords: differential equations with aftereffect, optimal stabilizing control, quadratic performance index, Riccati equation.

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