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Delay-dependent robust stabilization of uncertain state-delayed systems. (English)

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For uncertain delayed system

$$\dot{x}(t) = (A + DF(t)E)x(t) + (A_1 + D_1F_1(t)E_1)x(t-h) + (B + DF(t)E_a)u(t),$$

$$x(t) = \Phi(t), \quad t \in [-h, 0],$$

with various feedback controls:

$$u(t) = Gx(t); u(t) = Gx(t) + G_1x(t-h); u(t) = Gx(t) + \int_{t-h}^t G_2(s)x(s)ds,$$

delay-dependent robust stabilization conditions are obtained, respectively. A feedback control law is constructed by an algorithm based on convex optimization.

Reviewer: [Tamaz Tadumadze \(Tbilisi\)](#)

MSC:

[93D21](#) Adaptive or robust stabilization

[93C23](#) Control/observation systems governed by functional-differential equations

[90C25](#) Convex programming

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