

1096-35-2194

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Stabilizability of Differential Equations.

For a system of linear ordinary differential equations

$$Y'(x) = AY(x); Y(0) = Y_0$$

the stability is determined by the eigenvalues of the matrix A . For a controlled system of ODE

$$Y'(x) = AY(x) + Bu$$

the concept of feedback control in the form $u = Ku$ for a suitable matrix K , for which all the eigenvalues of $A + BK$ have negative real part, will be recalled and the method to calculate such feedback control will be indicated. Similar feedback controls for PDE systems will be discussed in the context of Compressible Navier-Stokes system. (Received September 17, 2013)