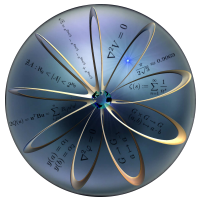

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stable matrix

Canonical name	StableMatrix
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Defines	positive stable

A square matrix is said to be a *stable matrix* if every eigenvalue of has negative real part. The matrix is called *positive stable* if every eigenvalue has positive real part.

Motivation: In the following system of linear differential equations,

$$\mathbf{x}'(t) = M\mathbf{x}(t)$$

it is easy to see that the point $\mathbf{x} = \mathbf{0}$ is an equilibrium point. The trajectory $\mathbf{x}(t)$ will converge to $\mathbf{0}$ for every initial value $\mathbf{x}(0)$ if and only if the matrix M is a stable matrix.