

1100-93-103

Bernard Friedland* (bf@njit.edu), Dept of Electrical and Computer Engineering, Newark, NJ 07102. *On Definition of Bandwidth and Response Time in Linear Dynamic Systems*. Preliminary report.

Centroidal definitions of bandwidth W and response time T of a linear system are proposed. For a linear, time-invariant system characterized by ordinary differential equations, $\dot{x} = Ax + Bu$, $y = Cx$ these are easily calculated in terms of the matrices A , B , and C and by solution of Lyapunov equations. These definitions comport well with intuitive definitions for low order systems, as demonstrated by several examples. (Received February 03, 2014)