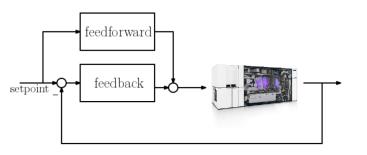
Nonlinear Control for Performance

Hybrid Integrator-Gain Systems: A Remedy for Overshoot Limitations in Linear Control? (tue.nl)

Motivation



nanometer

0.08540.1

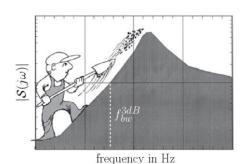
scanning interval

0.0378

time in seconds

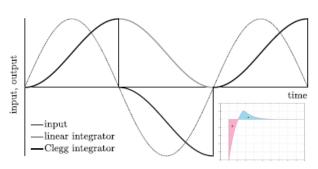
servo error in nanometer

Fundamental Limitation of LTI Controller

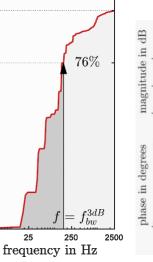


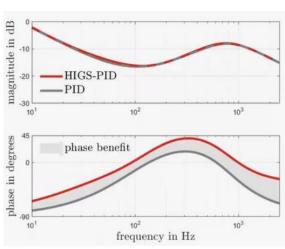
$$\int_0^\infty \ln |S(j\omega)| d\omega = \pi \sum_k Re(p_k) - \frac{\pi}{2} \lim_{s \to \infty} sL(s)$$

Reset Control

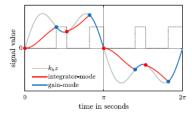


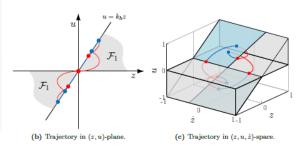
How nice, if..!



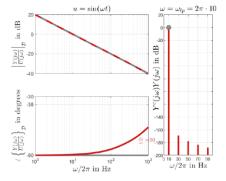


HIGS





Describing Functions iso Transfer Functions



Benefits

