Lecture 42  M  week 15  04/23

feedback control design

\[ \begin{align*}
&x \rightarrow G(s) \rightarrow G(s) \rightarrow y(t) \rightarrow 1 \\
&\rightarrow H(s) \rightarrow n
\end{align*} \]

sensor + filter

Stability
- Routh-Hurwitz
- Root-locus
- Nyquist plot

performance
\[ x(t) = u(tf) \]

overshoot
steady state error

1. PID
2. Model predictive control
3. Optimal control
4. Stochastic control
5. Robust control
6. Reinforcement learning, data driven control
7. Digital control

Laplace transform  state-space model
Classic control  modern control