Meeting

Po Hsun Wu

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Progress report

Table 1: Step performance

	Tracker		Regulator	
	β	ϕ	β	ϕ
Rise time(sec)	μ=0.3605 σ=0.2923	μ=0.3285 σ=0.3213	μ=0.5887 σ=0.3575	μ=0.4132 σ=0.4636
2% Settling time(sec)	μ=7.2089 σ=3.6041	μ=6.1229 σ=4.0108	μ=4.6819 σ=3.3599	μ=4.3516 σ=3.3567
5% Settling time(sec)	μ=3.8233 σ=4.0600	μ=3.1465 σ=3.9023	μ=2.4018 σ=2.8485	μ=2.2058 σ=2.7957
Overshoot(%)	μ= 10.0160 σ=20.1131	μ= 9.5844 σ=22.0348	μ= 9.0915 σ=21.5718	μ= 8.9186 σ=21.3232
Undershoot(%)	μ= 4.9523 σ=18.8622	μ= 4.1673 σ=17.7305	μ= 6.3101 σ=23.0001	μ= 4.6244 σ=17.7231

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- Normalize

$$y_{\text{norm}} = \frac{y(t) - y_{\text{init}}}{y_{\text{final}} - y_{\text{init}}}$$

y_{init} is 0, y_{final} is the end point.

- TransientTime tolerance:

$$\max(|y(t) - y_{\text{final}}|) \times 0.02\%$$

- SettlingTime tolerance:

$$|y_{\text{final}} - y_{\text{init}}| \times 0.02\%$$

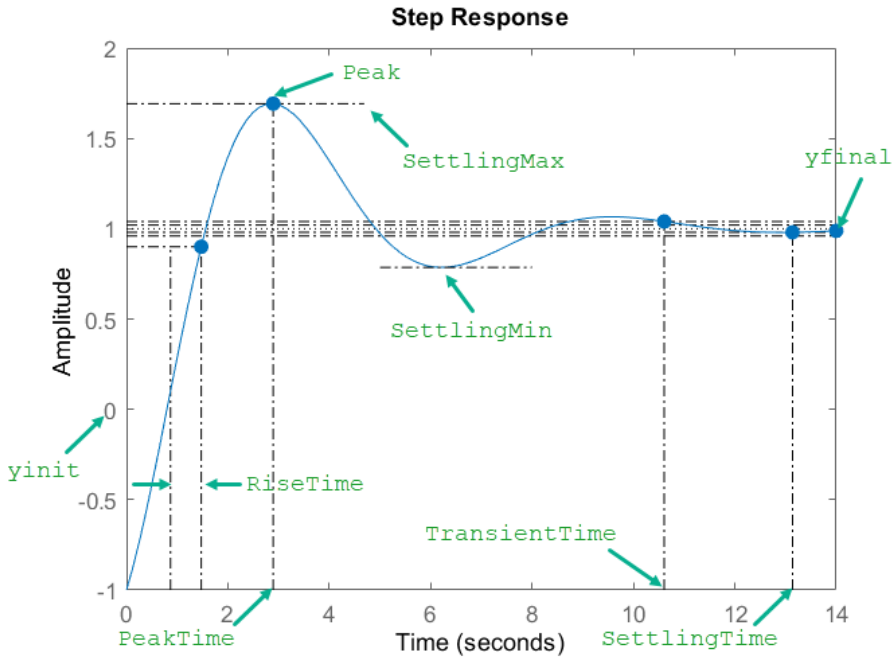

Figure 1: MATLAB `stepinfo` function

Progress report

- Determine the y_{init} and y_{final}.
- Have some problems when calculating the rise time.

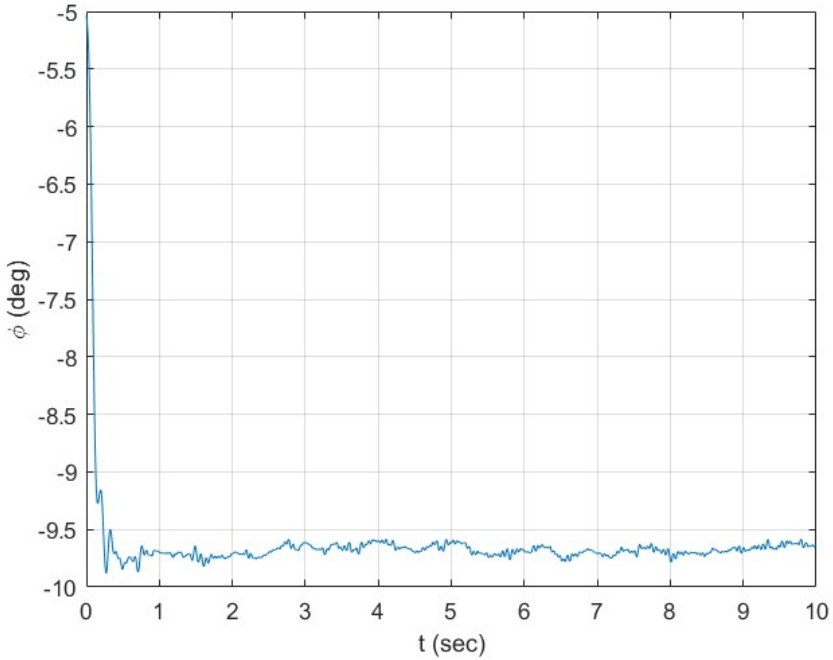

Figure 2: ϕ response