Block diagram of a self-oscillating adaptive system
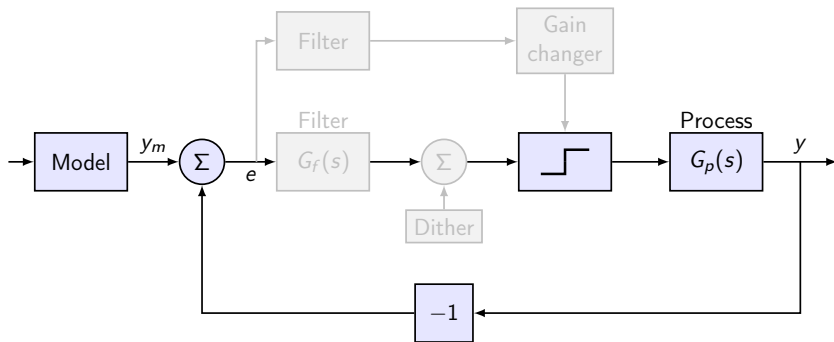

Figure 10.7, Åström and Wittenmark, Adaptive Control, 2nd edition.

Block diagram of a self-oscillating adaptive system

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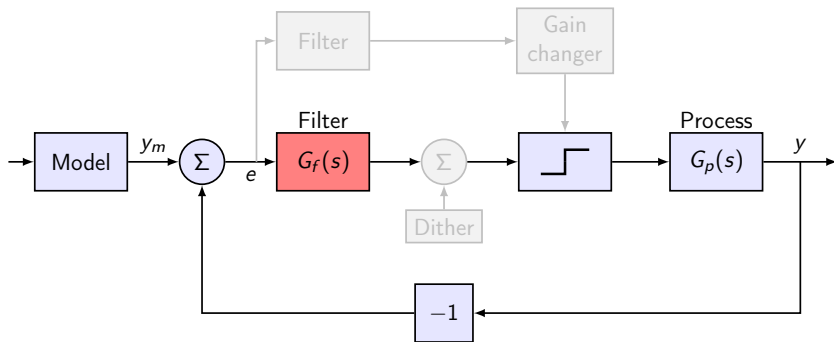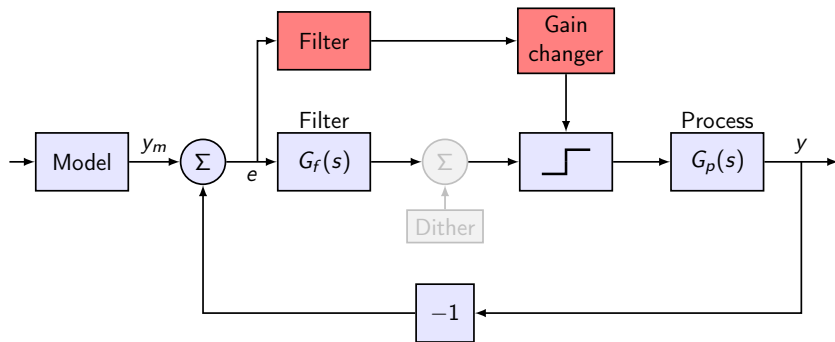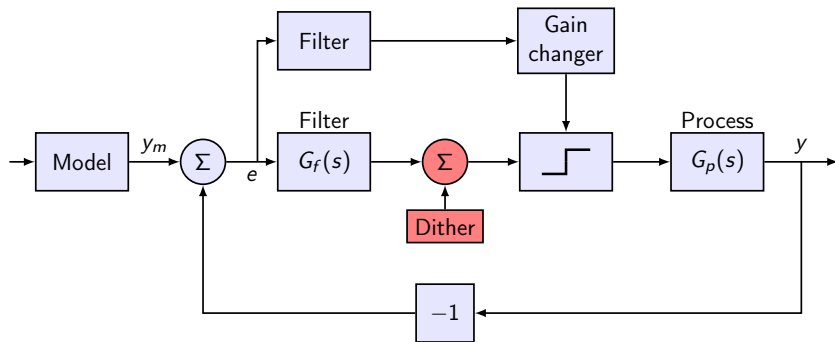# Block diagram of a self-oscillating adaptive system

Figure 10.7, Åström and Wittenmark, Adaptive Control, 2nd edition.

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Model elements

Process transfer function

$$G_p(s) = \frac{K\alpha}{s(s+1)(s+\alpha)}$$

Compensation network

$$G_f(s) = 1.2\frac{s+5}{s+15}$$

Gain changer

$$d = \begin{cases} d_1 & \text{if } |e| > e_l \\ d_2 + (d_1 - d_2)e^{-(t-t_0)/T} & \text{if } |e| < e_l \end{cases}$$