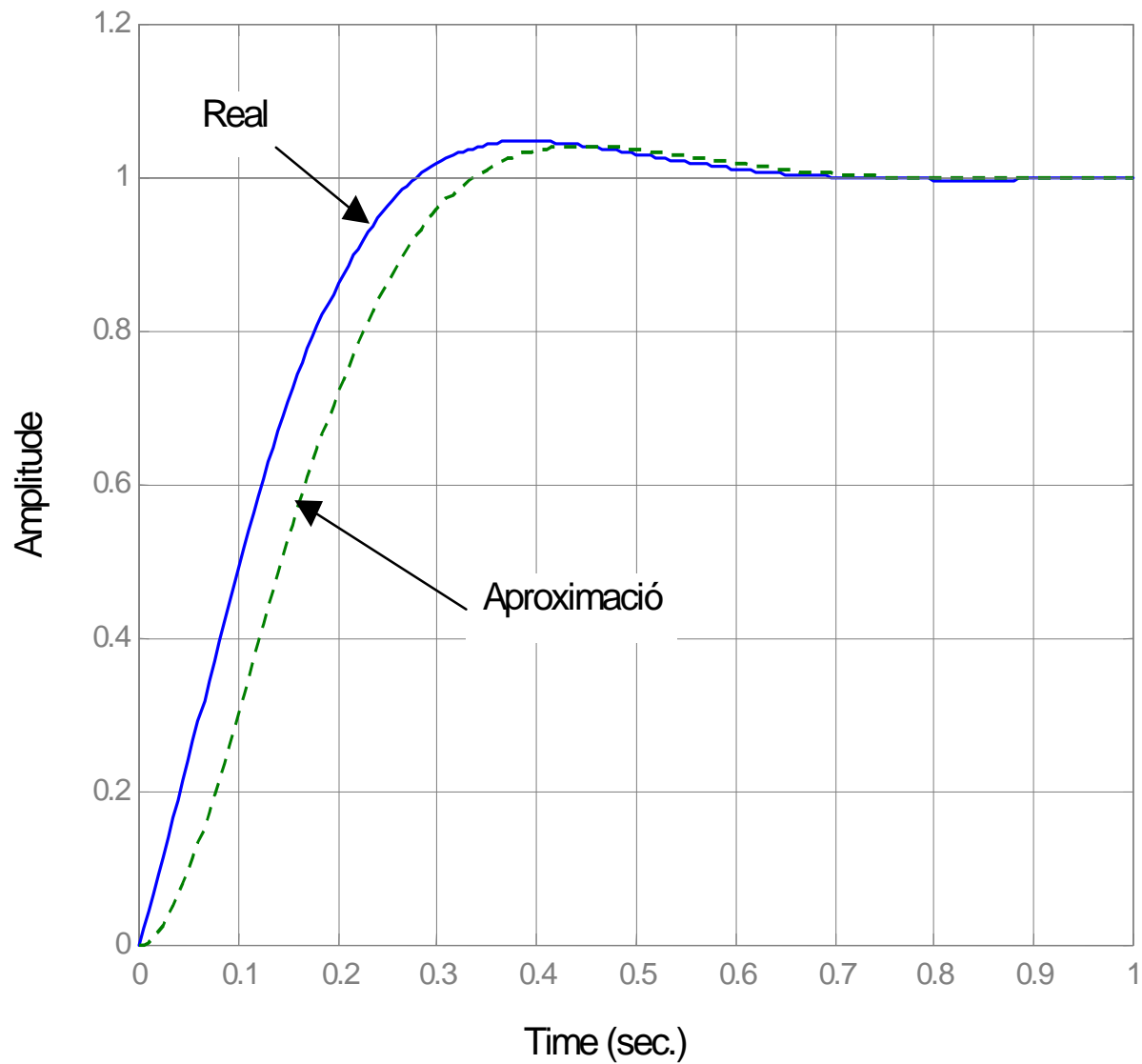


Sintonia analítica d'un PID. Exemple

Controlador PD
Step Response



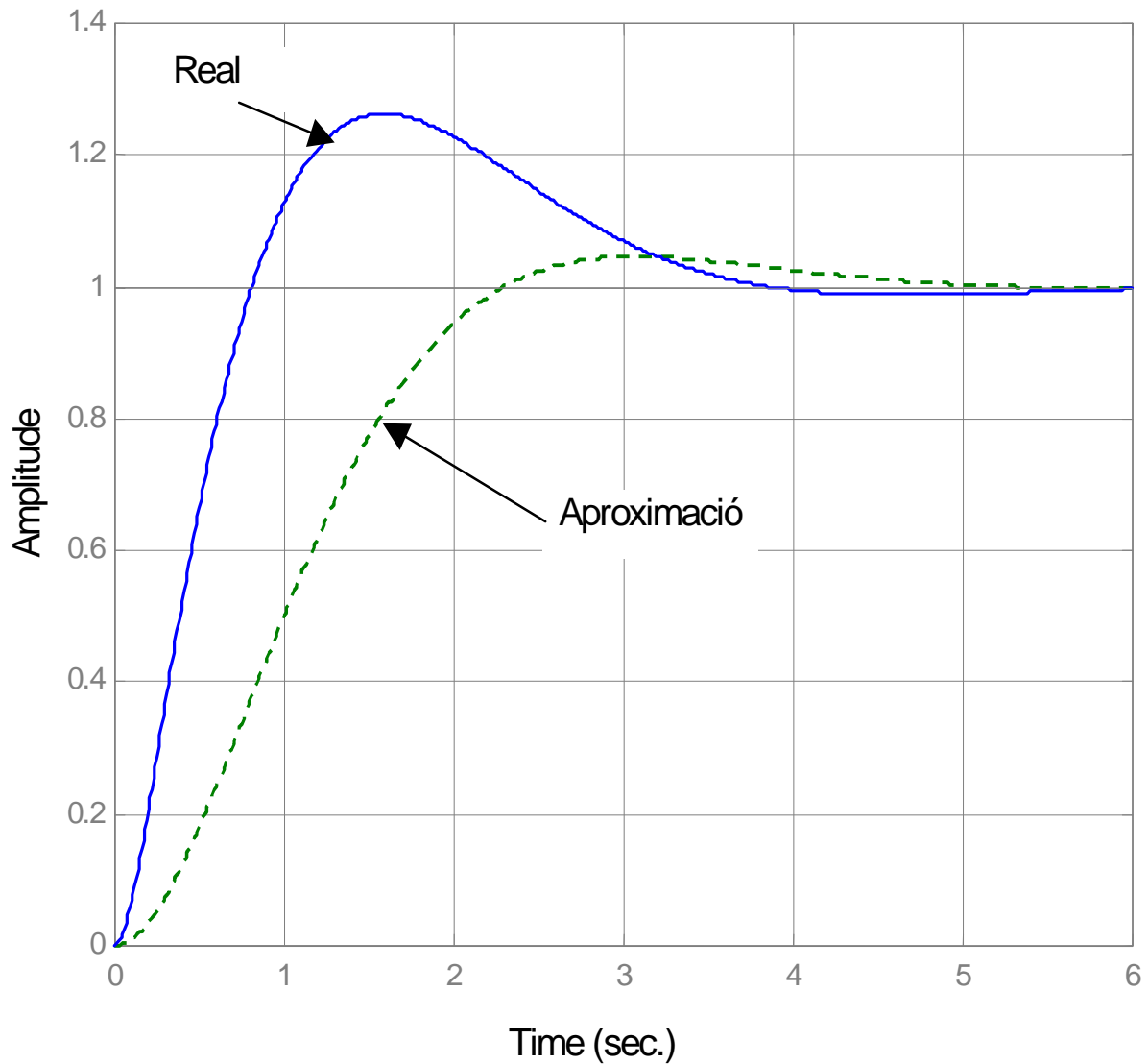
$$G(s) = \frac{100}{s(1 + 0.1s)}$$

$$G_C(s) = K_P(1 + T_d s) = 0.1(1 + 0.04s)$$

Sintonia analítica d'un PID. Exemple

Controlador PI

Step Response



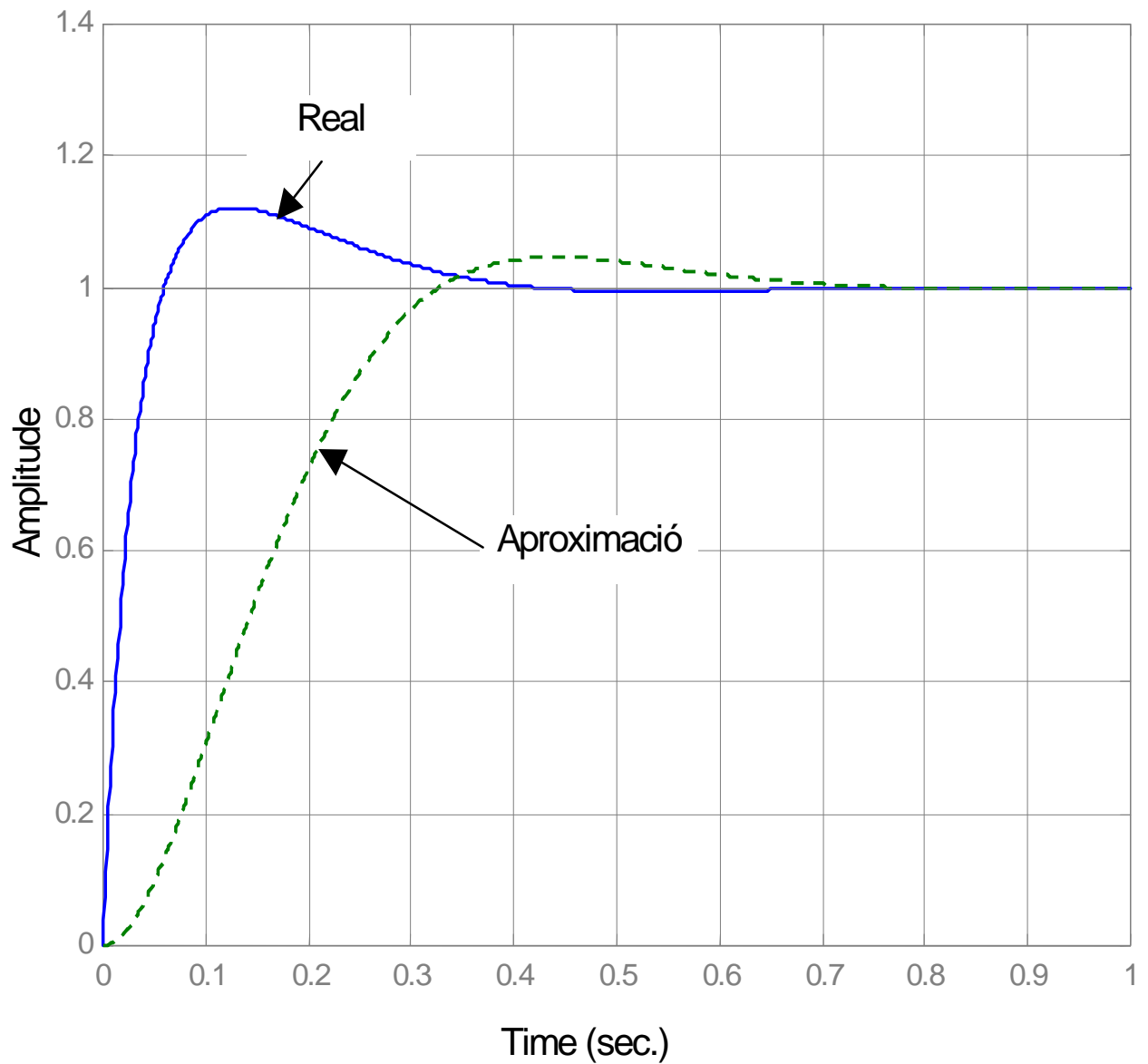
$$G(s) = \frac{100}{s(1+0.1s)}$$

$$G_C(s) = K_P + \frac{K_I}{s} = 0.1(1+0.04s)$$

Sintonia analítica d'un PID. Exemple

Controlador PID

Step Response

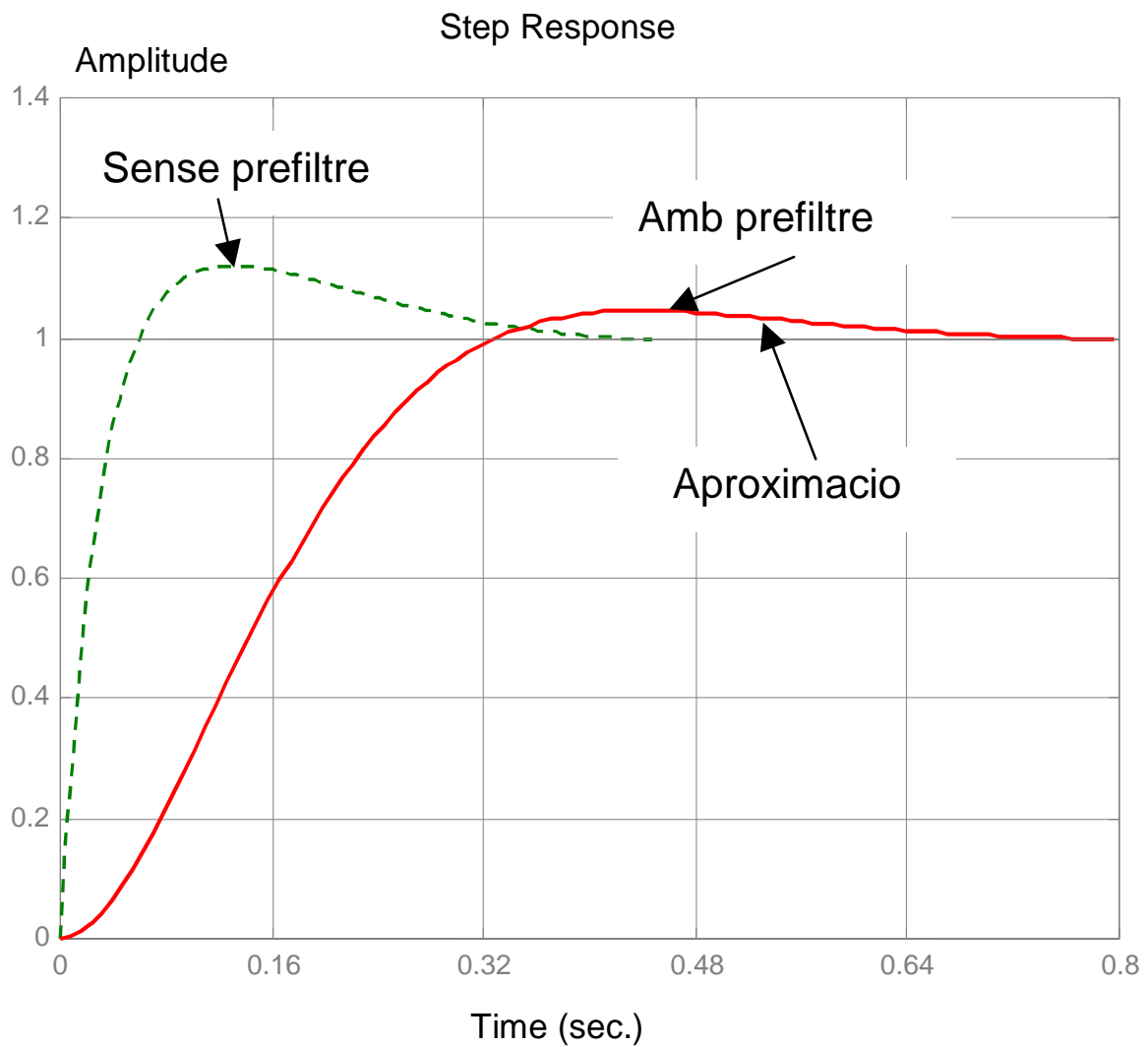


$$K_i = 3.51 \quad K_p = 0.59 \quad K_d = 0.039$$

$$M(s) = \frac{1000(K_d s^2 + K_p s + K_i)}{s^3 + 10(100K_d + 1)s^2 + 1000K_p s + 1000K_i}$$

Sintonia analítica d'un PID. Exemple

Controlador PID amb Prefiltre



$$Pr e(s) = \frac{K_I}{35} \frac{s + 35}{(K_d s^2 + K_p s + K_i)}$$