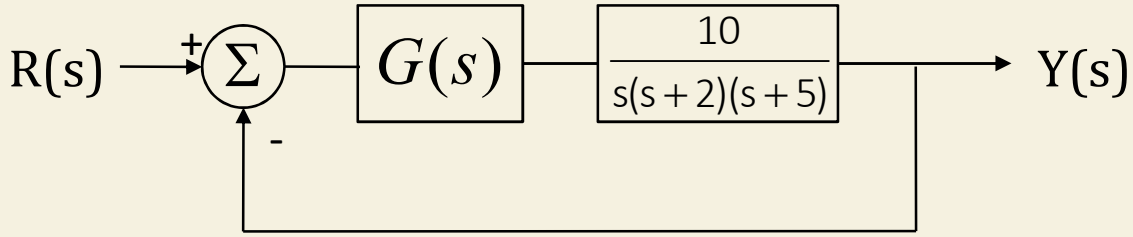
TE055

Compensação dinâmica:
Exercícios

Profª Juliana L. M. Iamamura

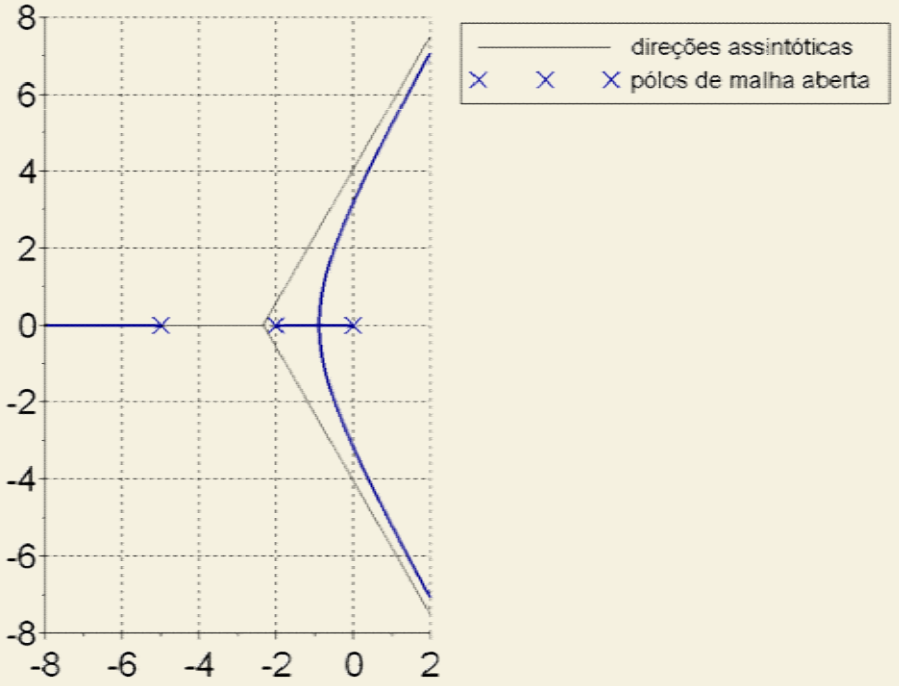
Ogata B.6.21

Considere o sistema de controle mostrado na figura abaixo. Projete um compensador de modo que os polos dominantes de malha fechada estejam localizados em $s = -2 \pm j2\sqrt{3}$ e a constante de erro estático de velocidade K_v seja 50 s^{-1}.



Ogata B.6.21

Sem controlador



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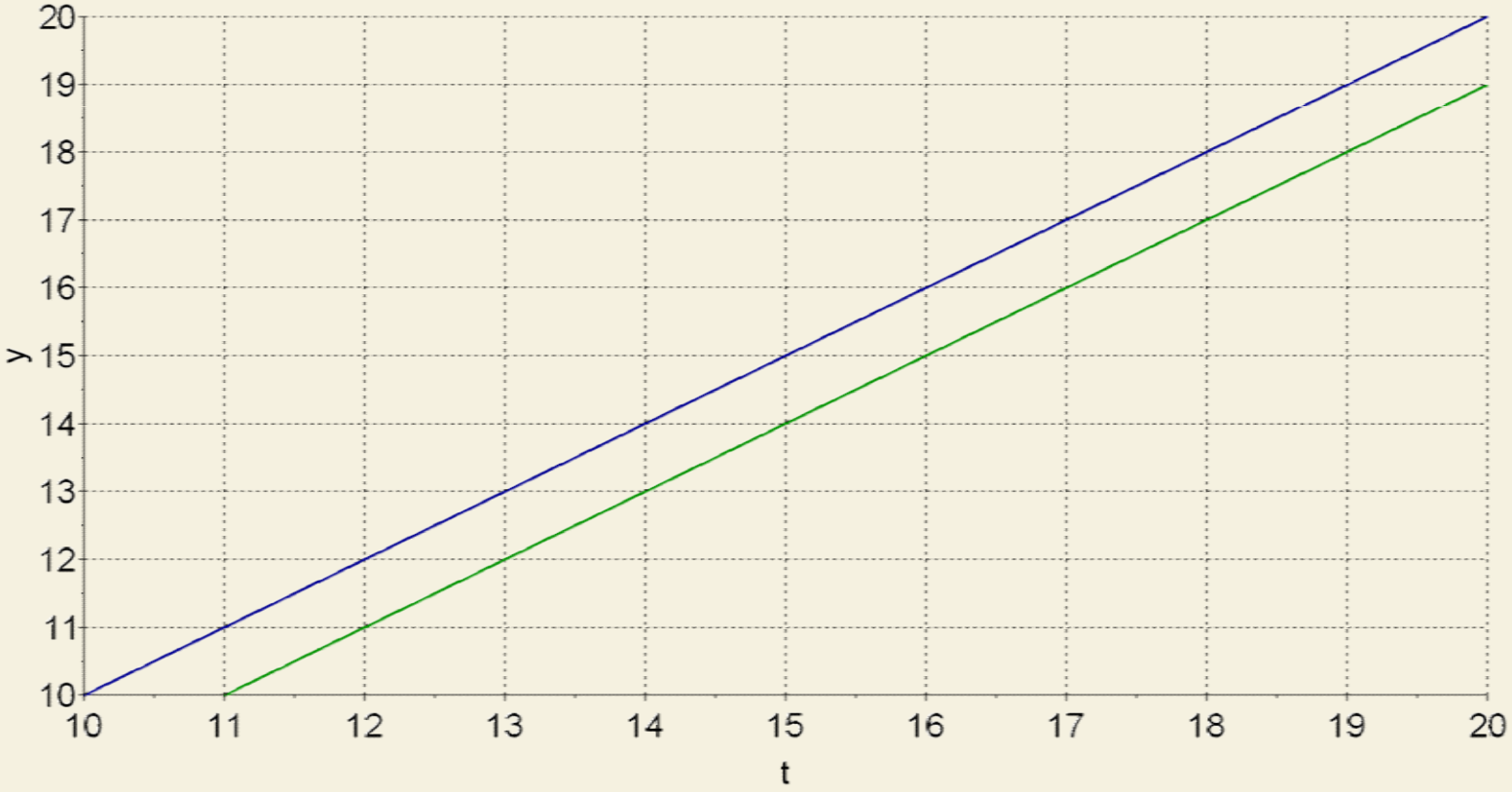

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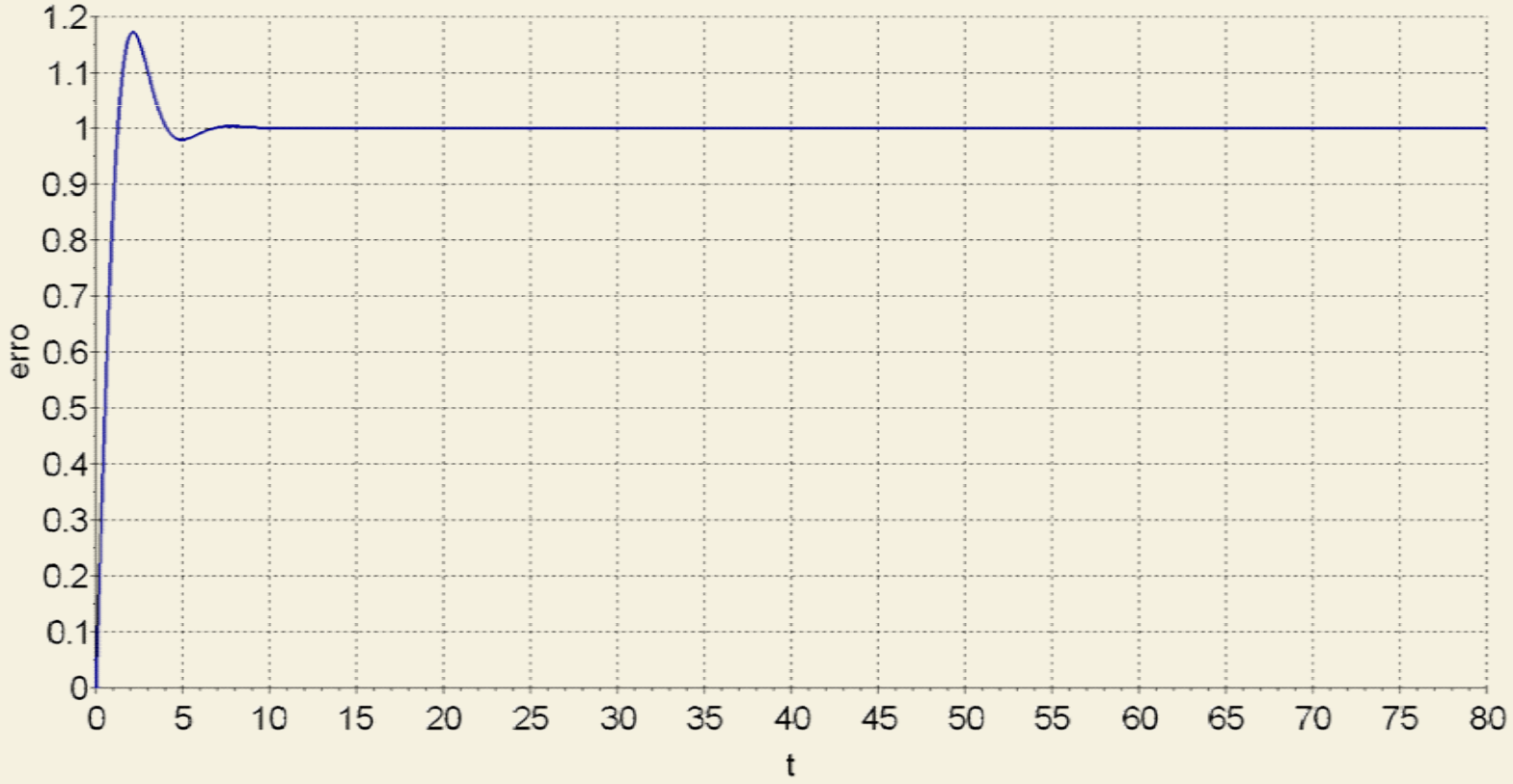
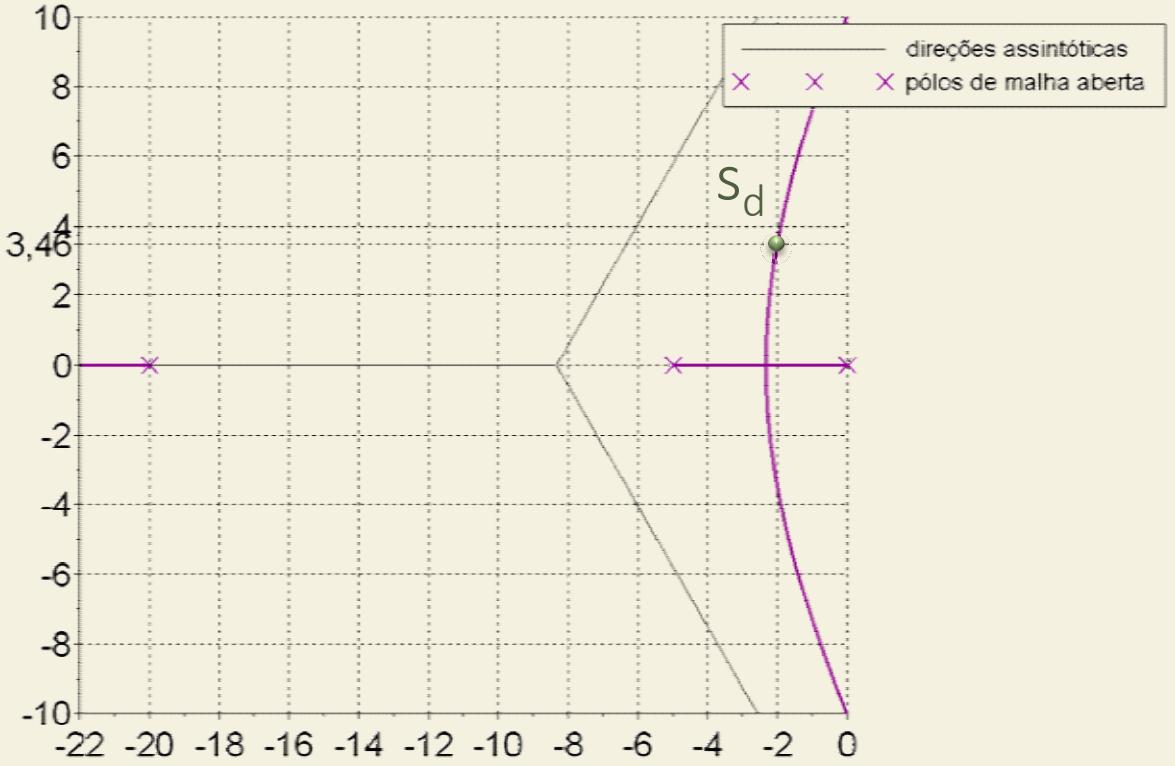


Ogata B.6.21

Com controlador de avanço

$$G_c = 33{,}6\frac{(s+2)}{(s+20)}$$



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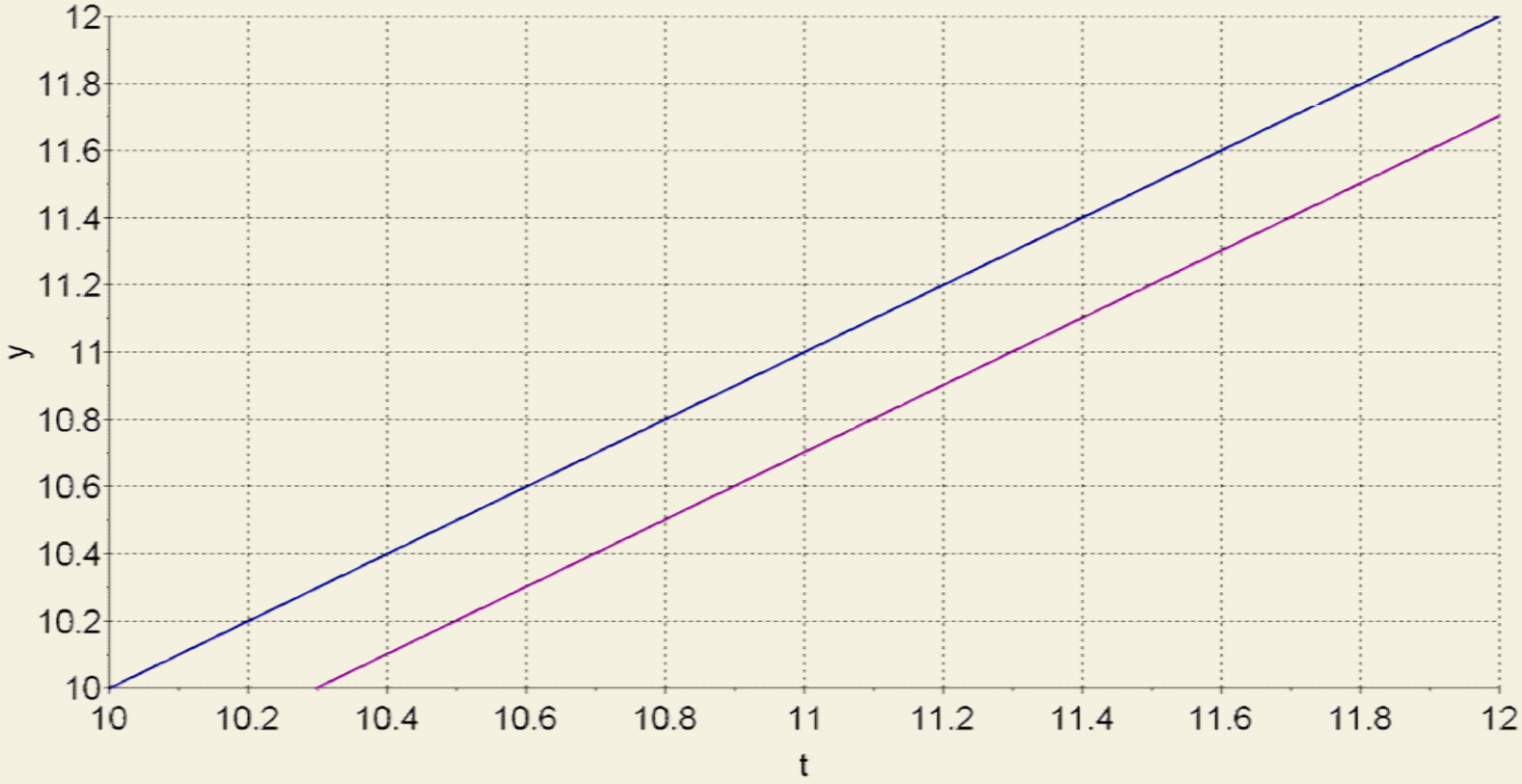

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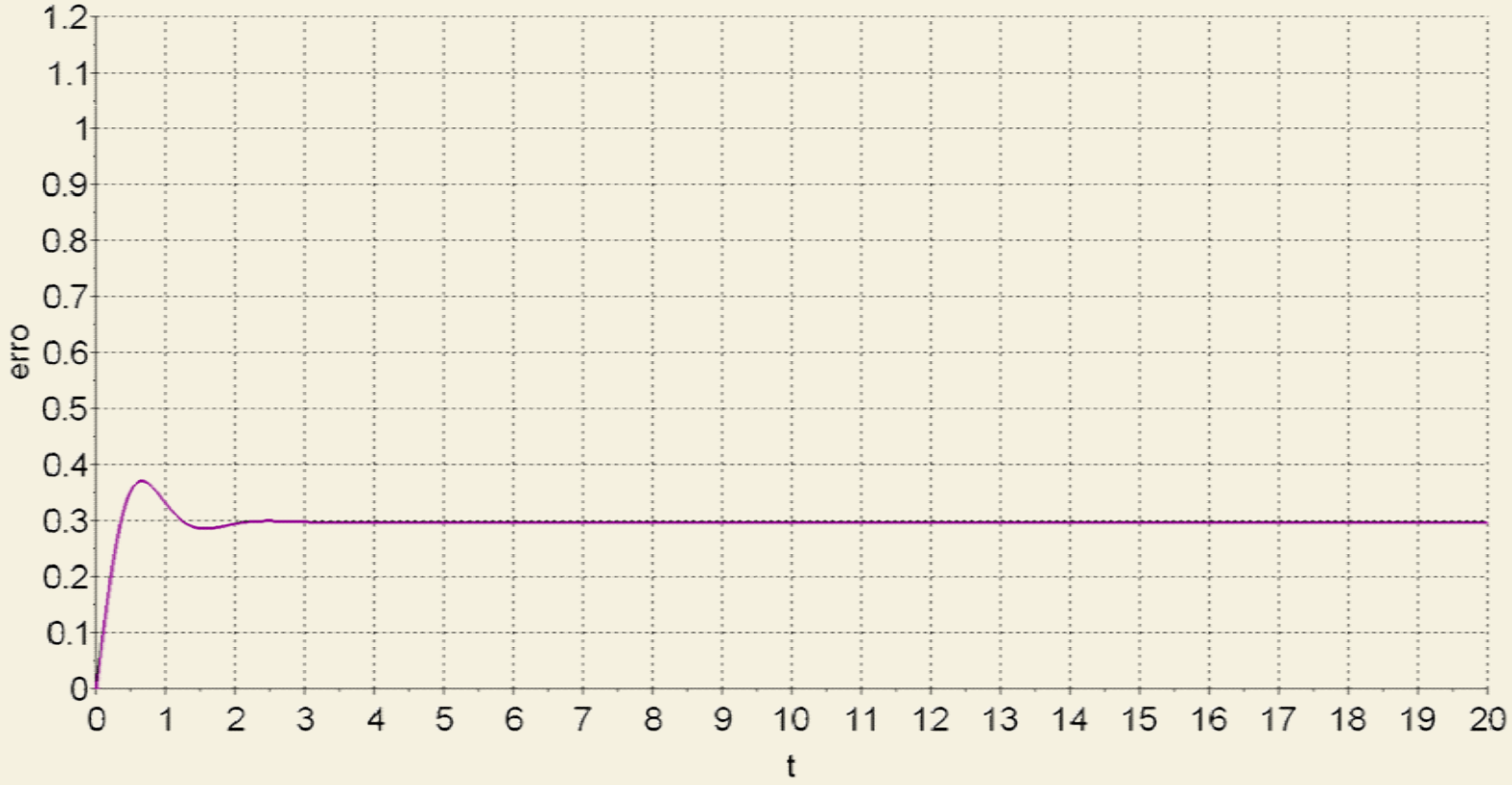
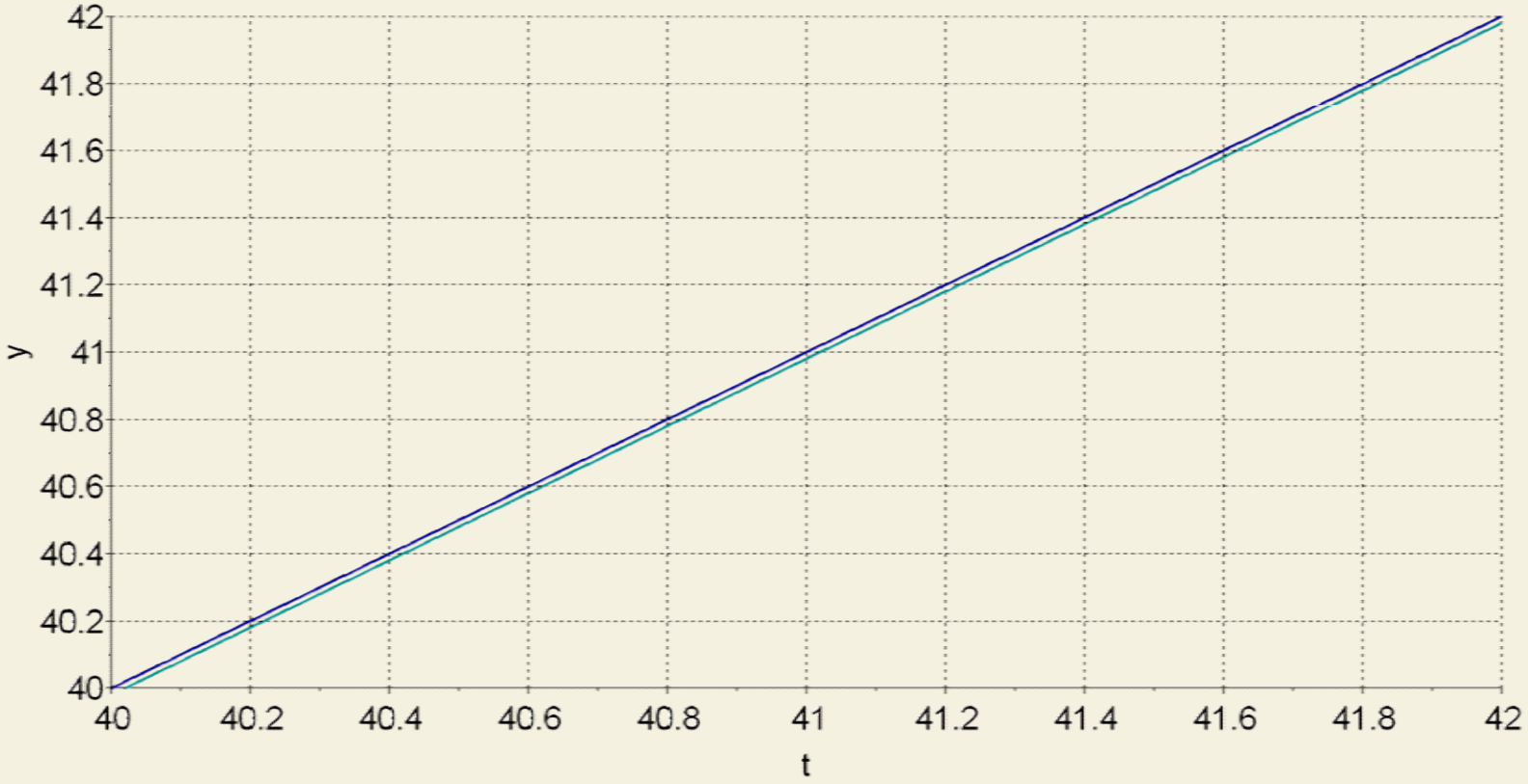


Ogata B.6.21

Com controlador de avanço e atraso

$$G_c = 33{,}6\frac{(s+2)}{(s+20)}\frac{(s+0{,}3)}{(s+0{,}02)}$$



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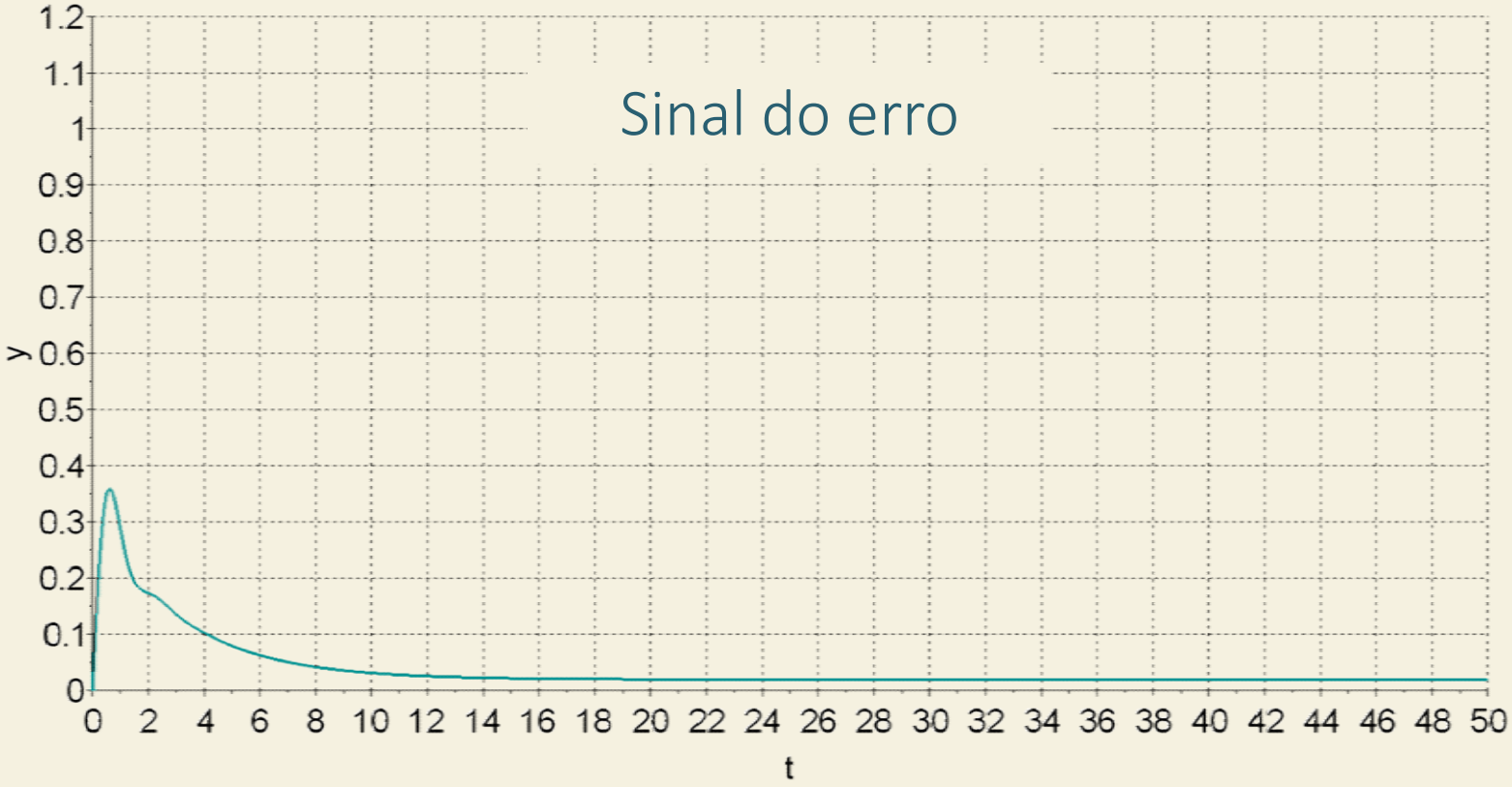

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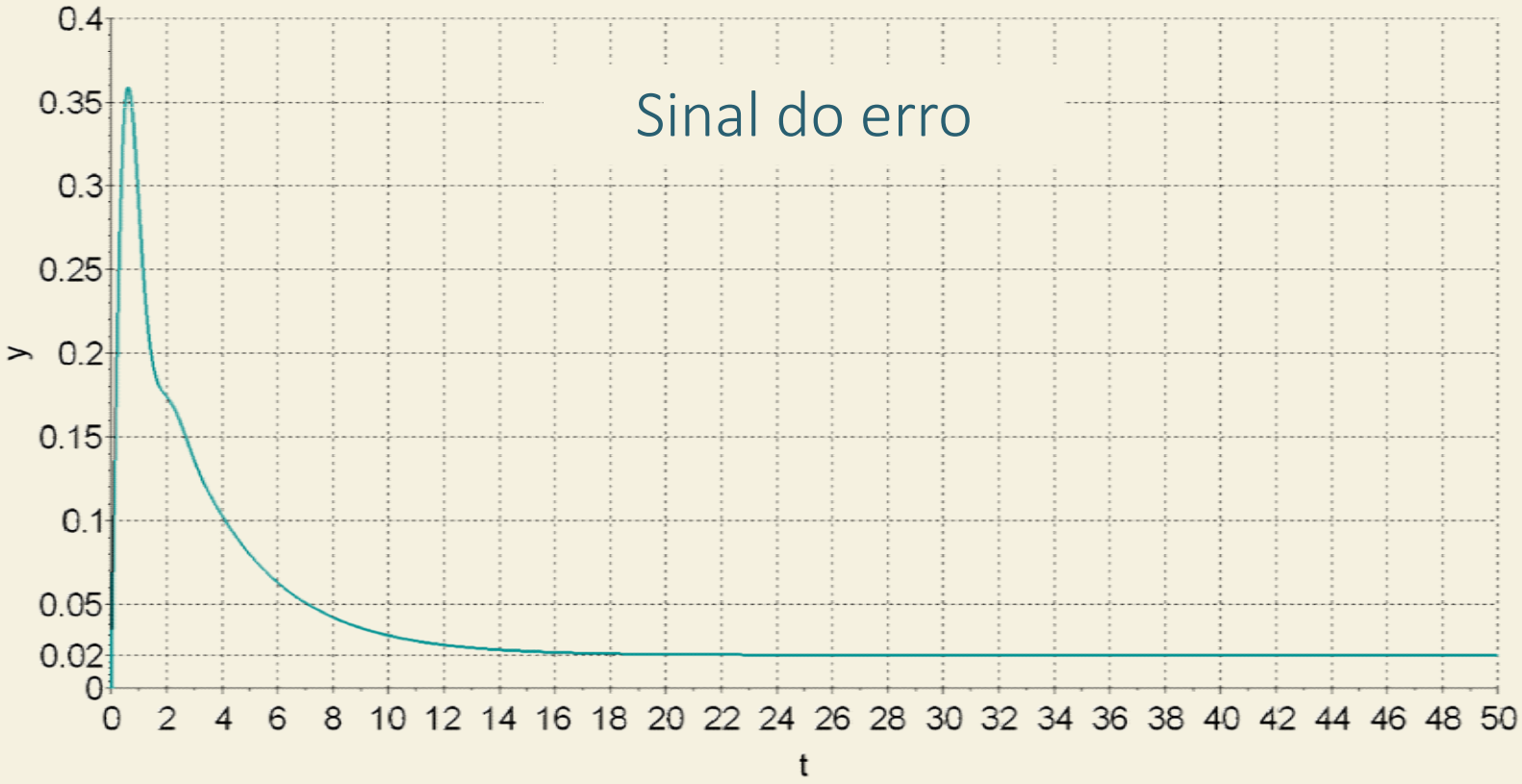

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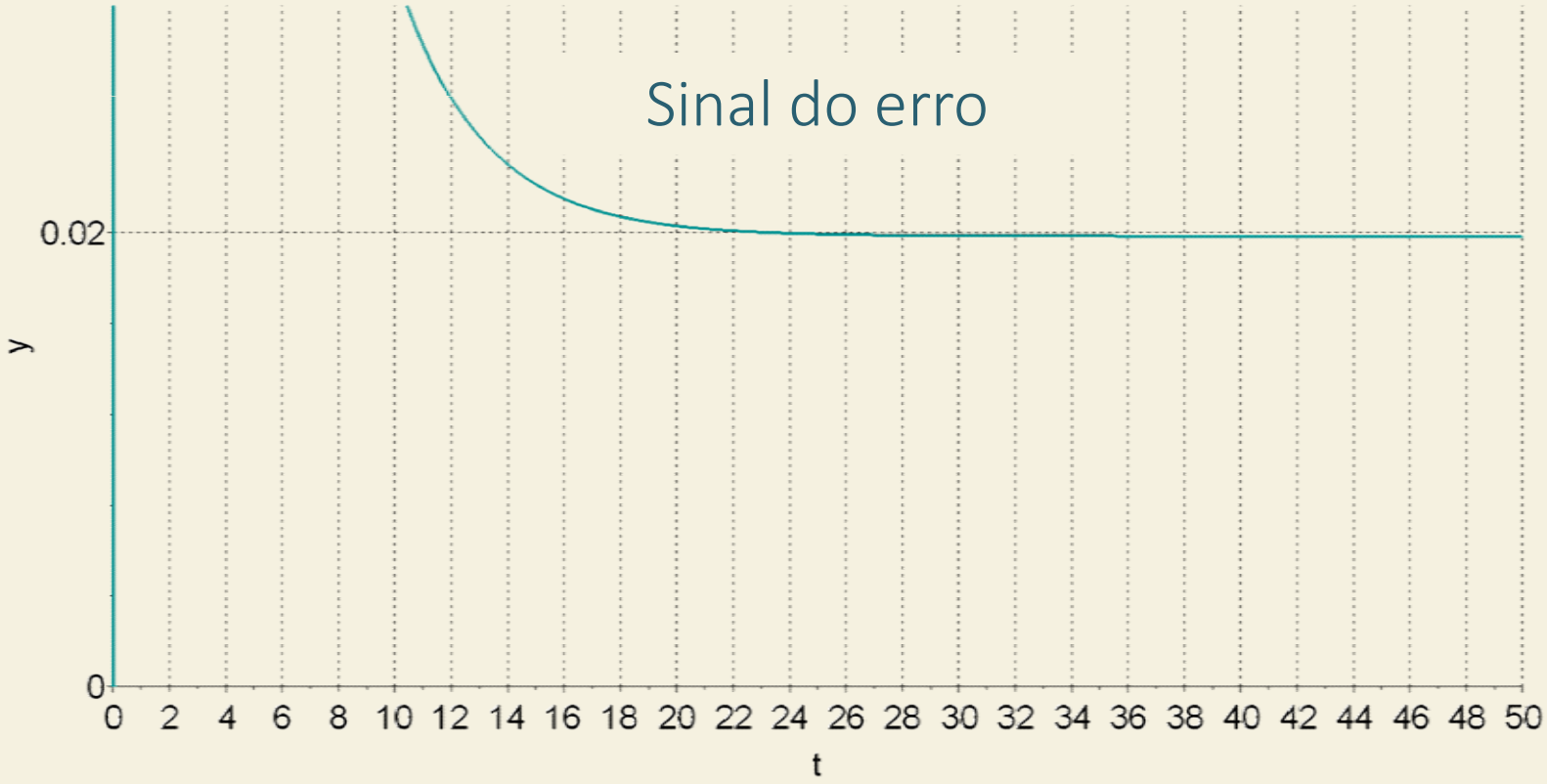
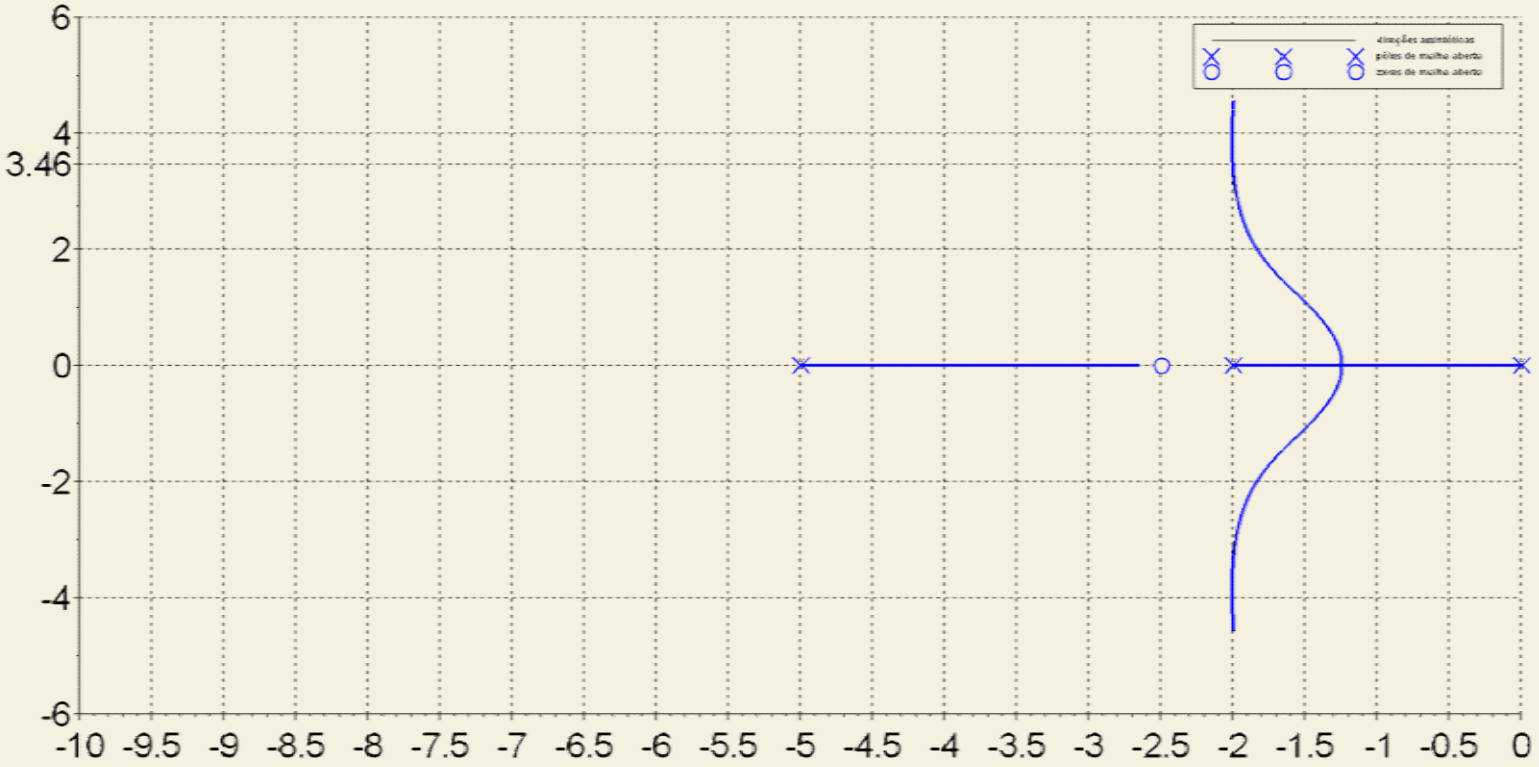


Outras soluções

Com controlador de avanço

$$G_c = 1330{,}3\frac{(s+2{,}5)}{(s+76{,}8)}$$



Outras soluções

Com controlador de avanço

$$G_c = 24{,}56\frac{(s+1{,}76)}{(s+15)}$$