

Fig. 10.50
 (continuação)
b. Diagrama de Bode para o sistema do Exemplo 10.13

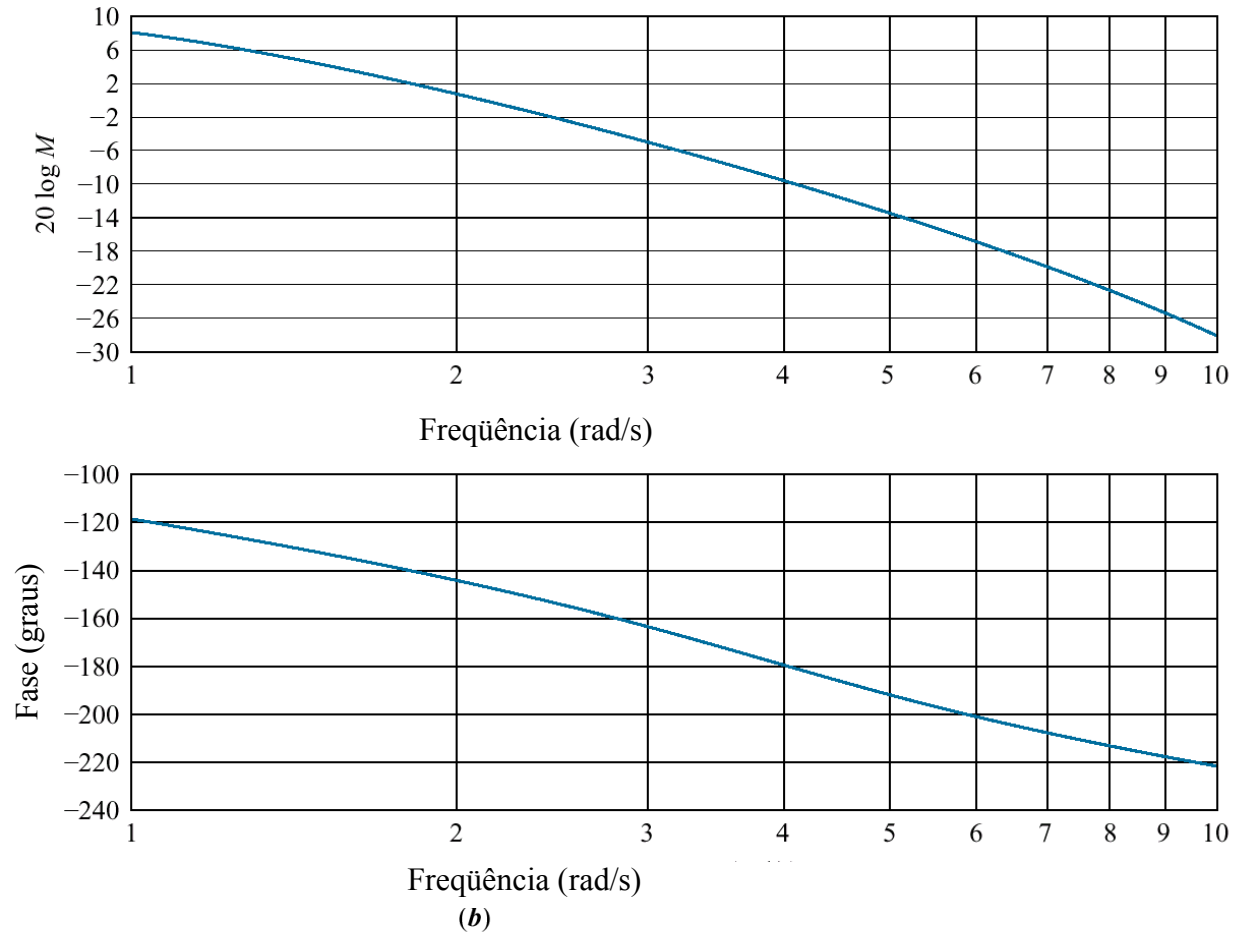


Fig. 10.51

Gráficos

logarítmicos de magnitude de Bode típicos não normalizados e sem escala

mostrando o valor das constantes de erro estático:

- a. Tipo 0;
- b. Tipo 1;
- c. Tipo 2

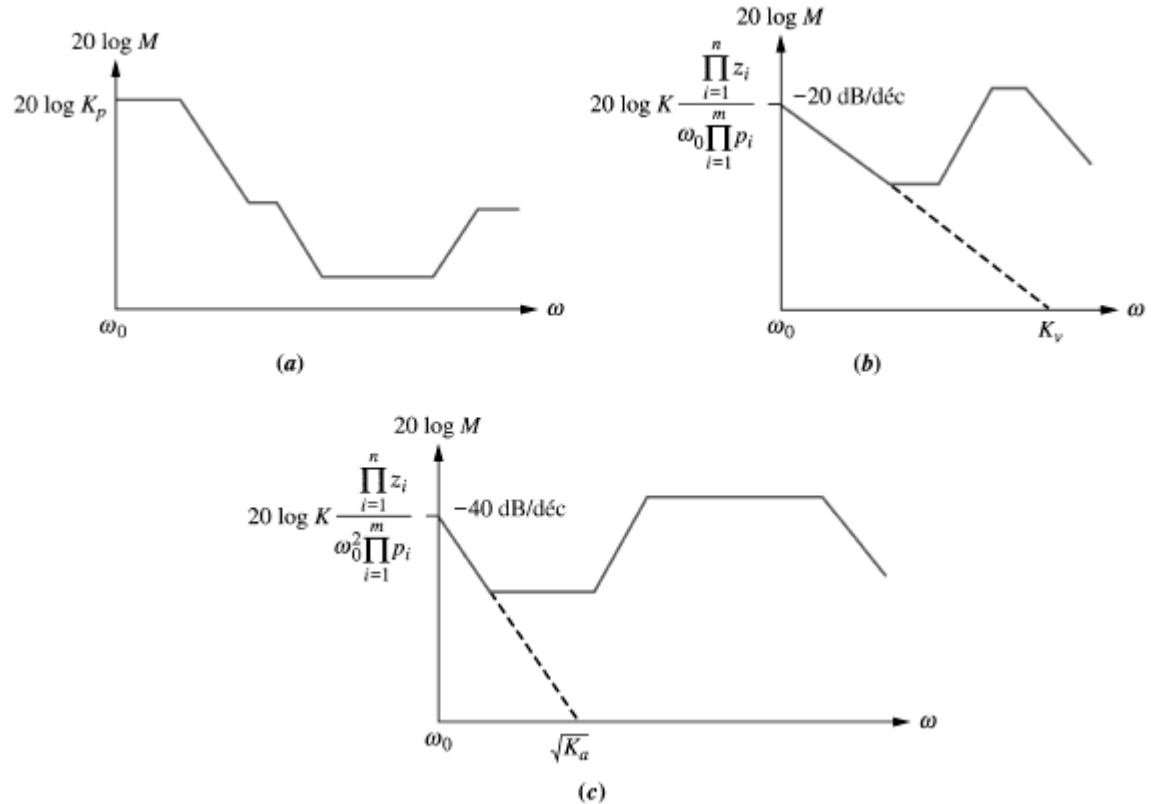


Fig. 10.52
Gráfico de magnitude logarítmica de Bode para o Exemplo 10.14

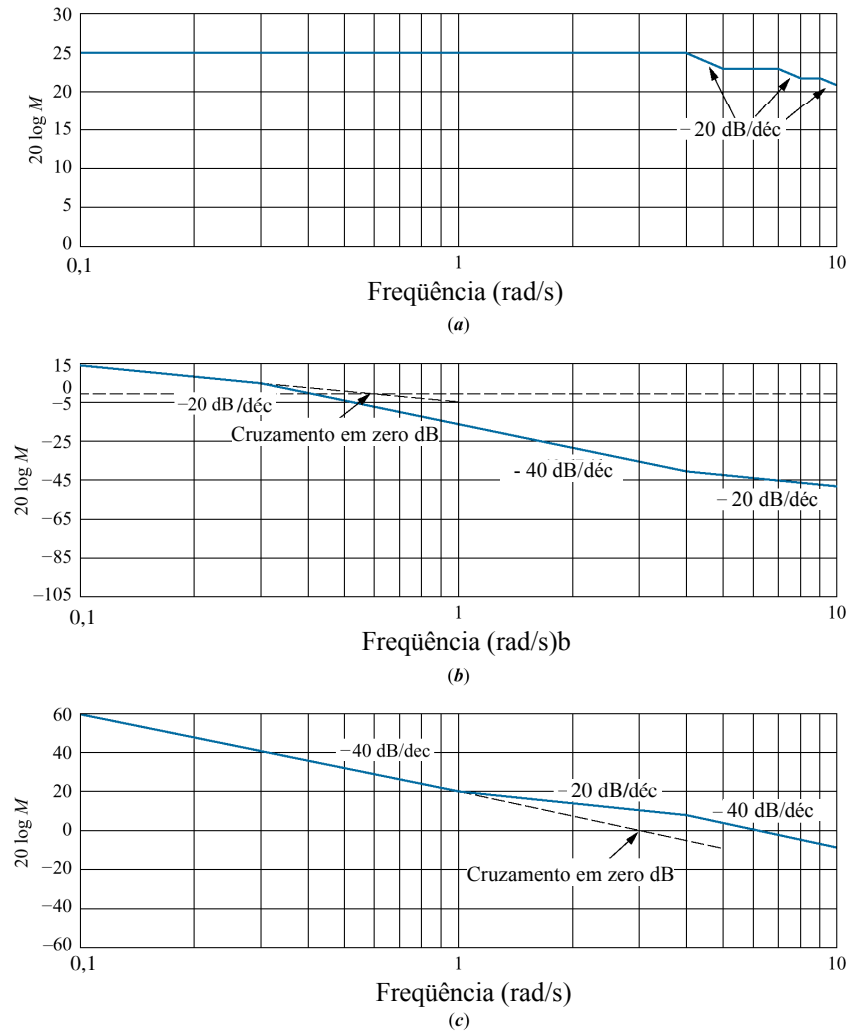


Fig. 10.53

Gráfico de magnitude logarítmica de Bode para o Exercício de Avaliação 10.10

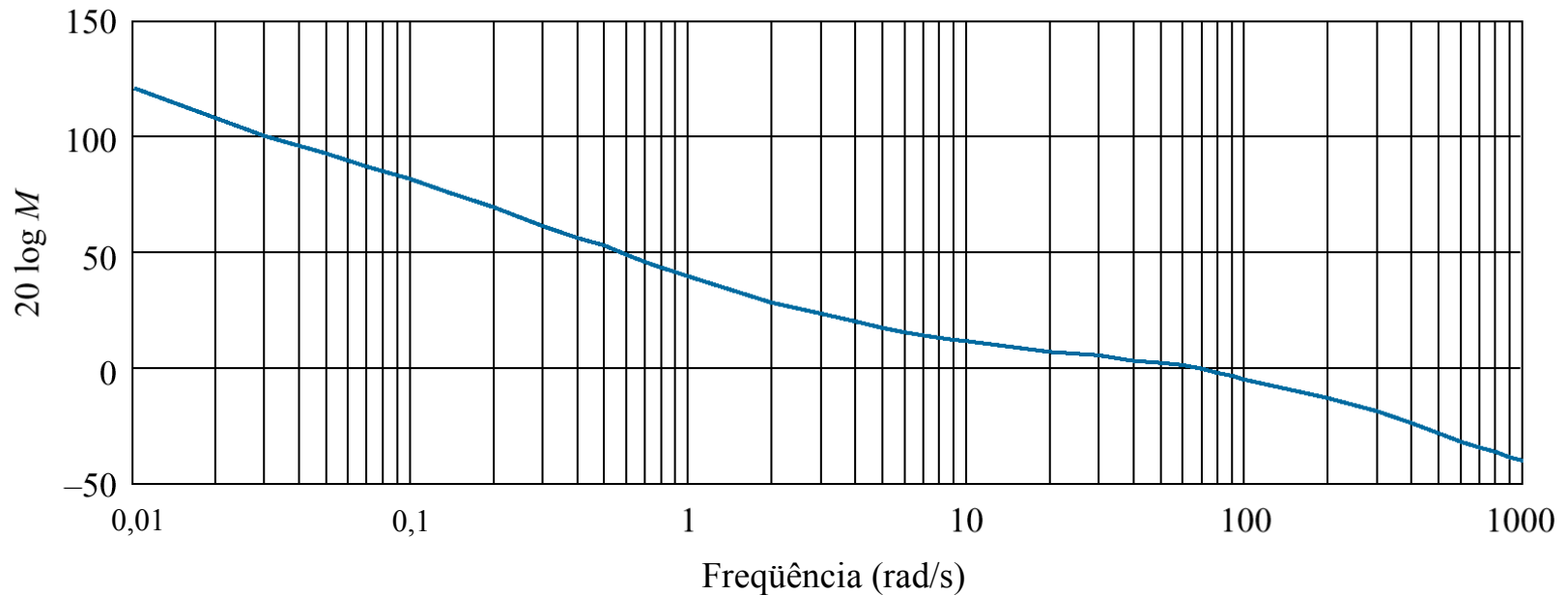


Fig. 10.54
 O efeito do retardo na resposta de frequência

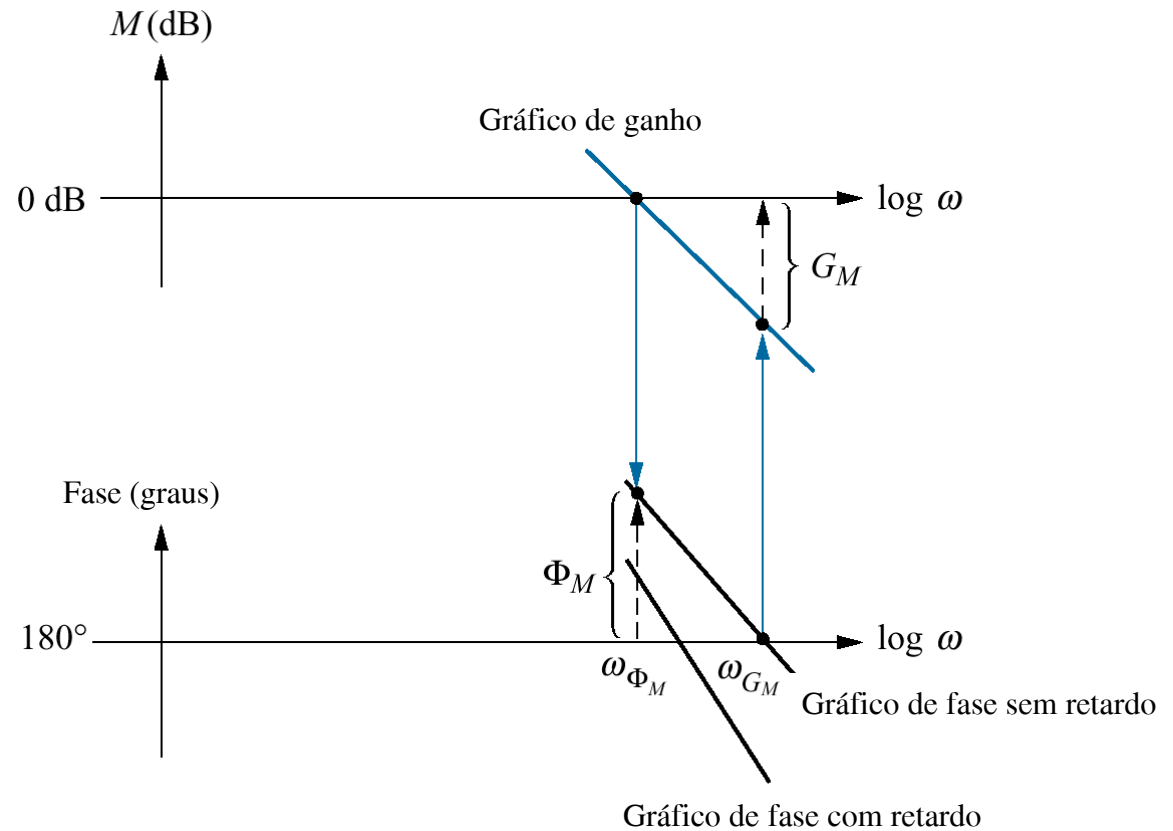


Fig. 10.55

Diagrama de resposta de frequência para $G(s) = K[s(s+1)(s+10)]$ com um retardo de 1 s e $K = 1$;
a. diagrama de magnitude;
b. diagrama de fase

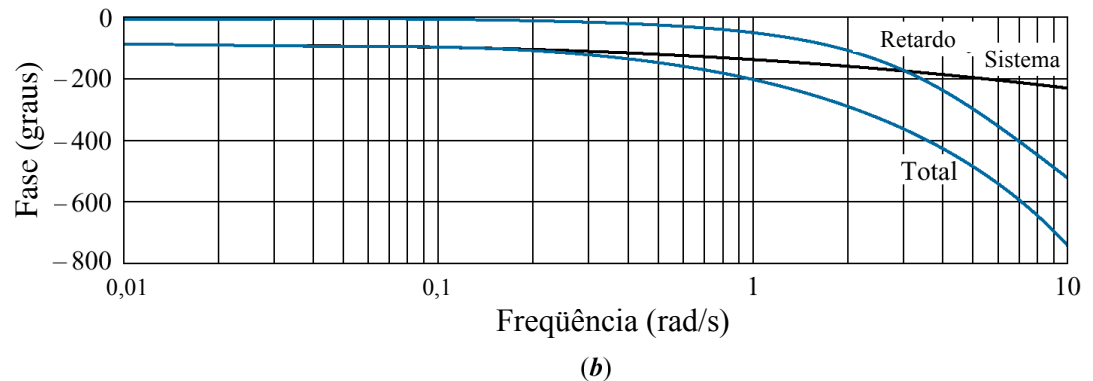
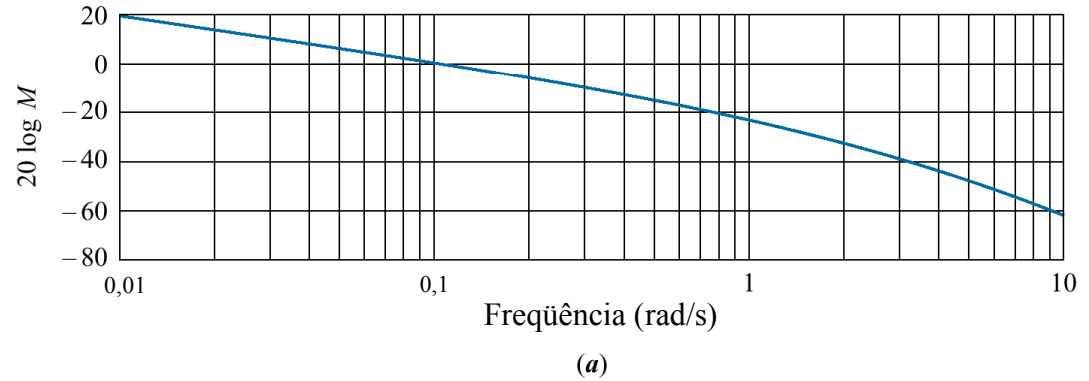


Fig. 10.56

Resposta ao degrau para sistema a malha fechada com

$$G(s) =$$

$$5/[s(s + 1)(s + 10)]:$$

a. com retardo de 1 s;

b. sem retardo

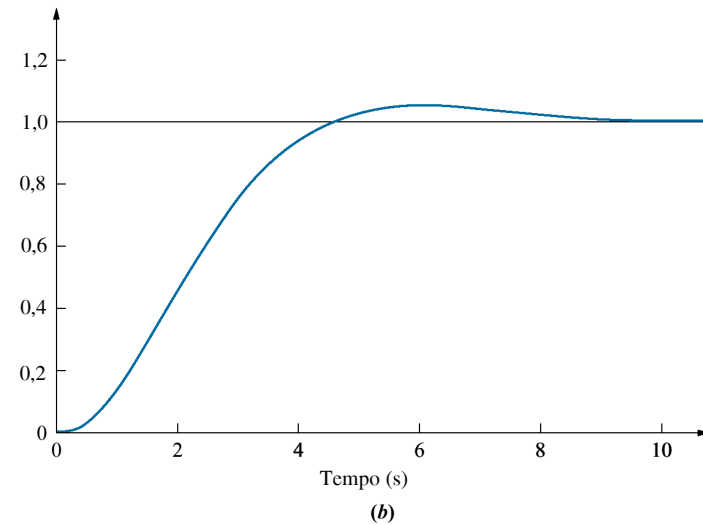
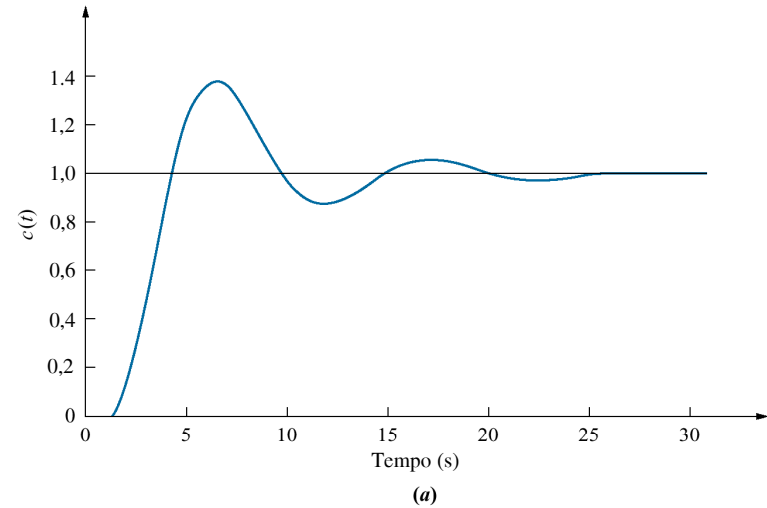


Fig. 10.57

Diagramas de Bode para subsistema com função de transferência não determinada

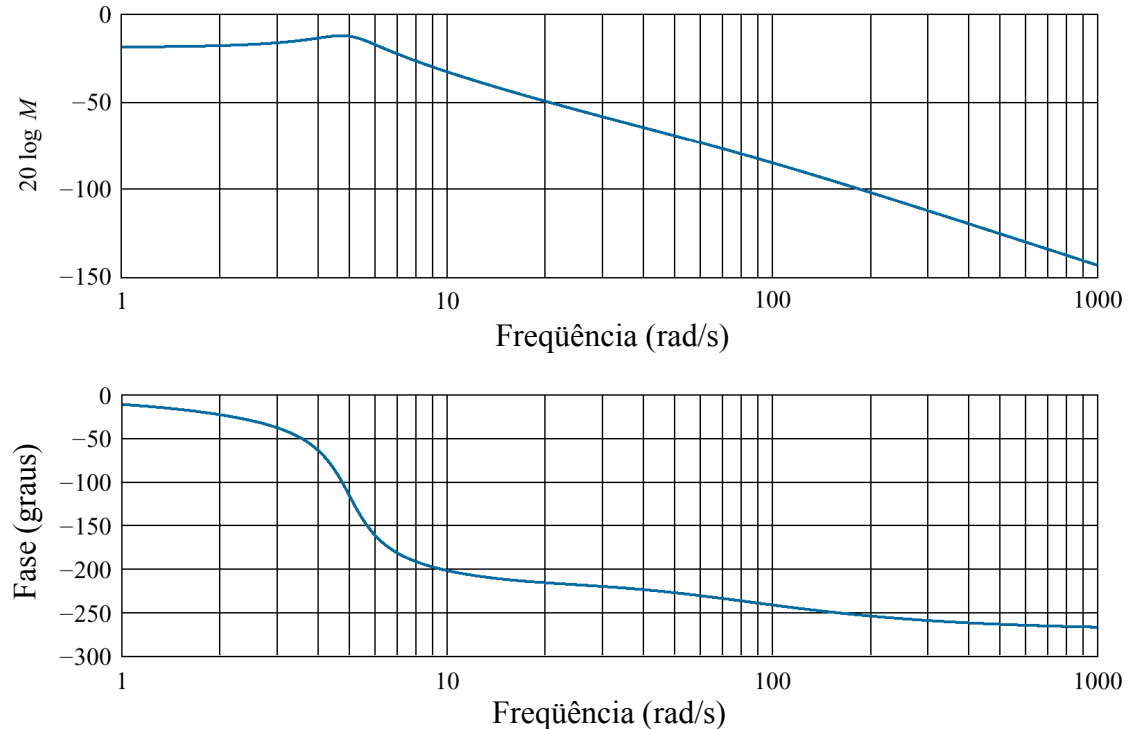


Fig. 10.58

Diagramas de Bode
originais menos
resposta de

$$G_1(s) = \frac{25}{(s^2 + 2,4s + 25)}$$

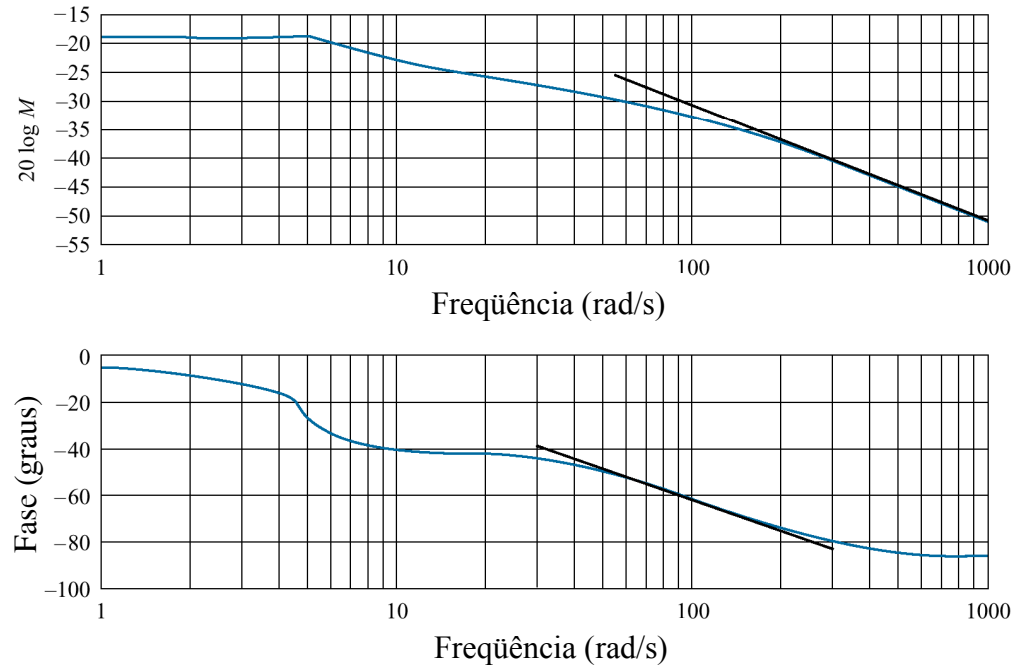


Fig. 10.59
 Diagramas de Bode
 originais menos
 resposta de
 $G_1(s)G_2(s) =$
 $[25/(s^2 + 2,4s + 25)]$
 $\cdot [90/(s + 90)]$

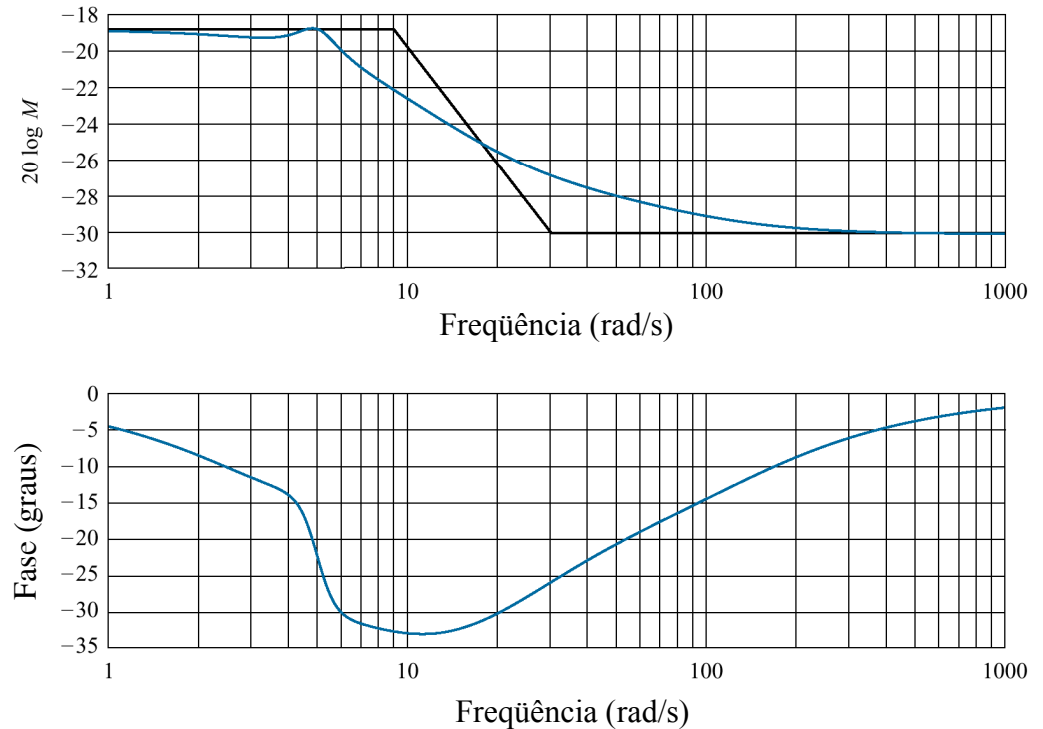


Fig. 10.60

Diagramas de Bode para o Exercício de Avaliação 10.12.

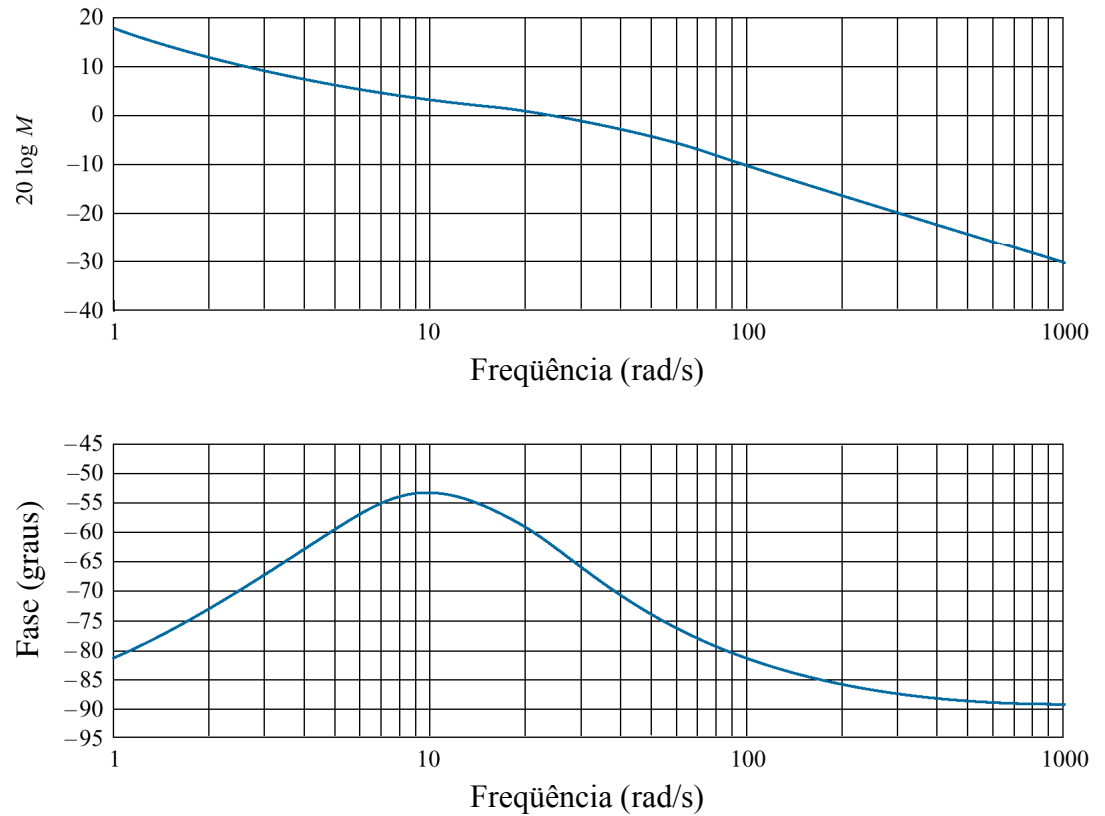


Fig. 10.61

Diagramas de resposta de freqüência a malha fechada para o sistema de controle de antena ($K = 1$)

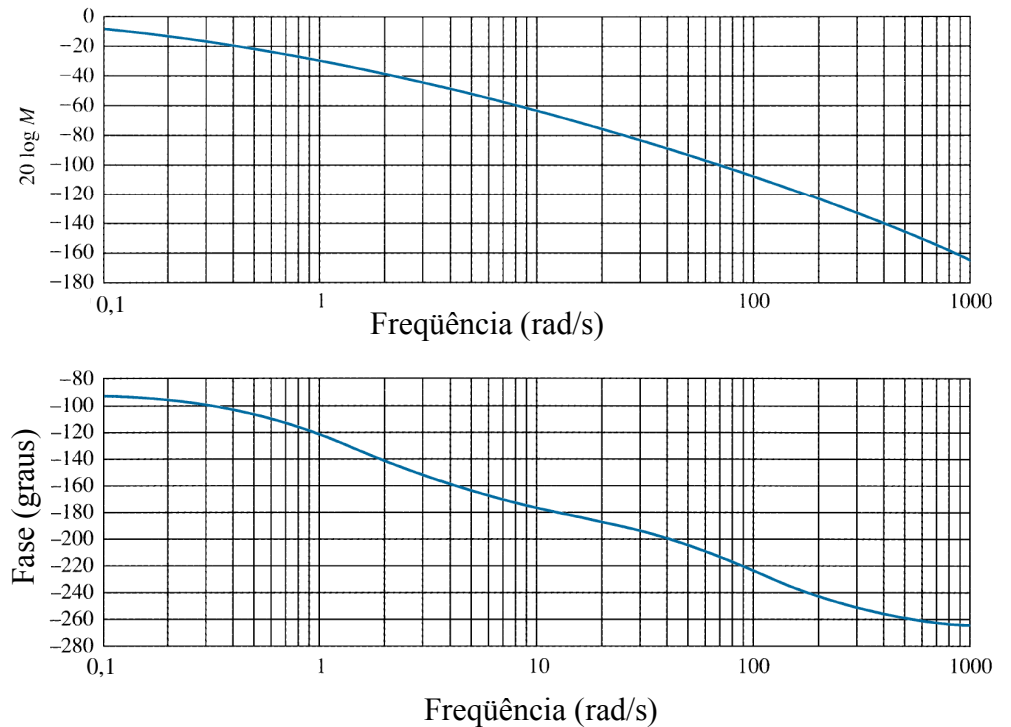
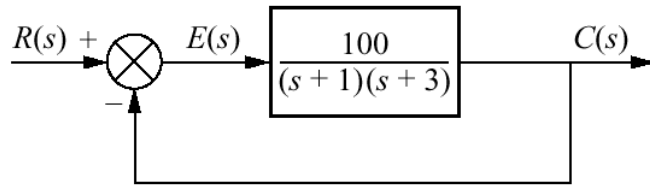
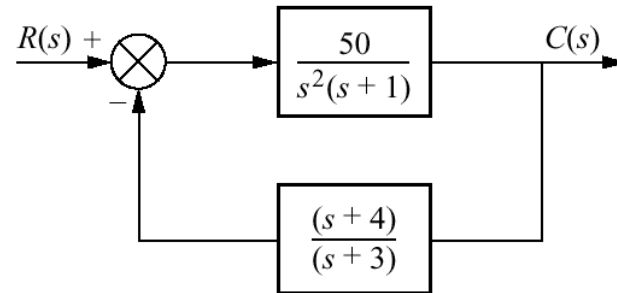


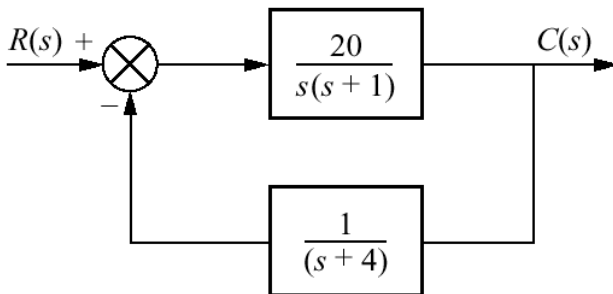
Fig. P10.1



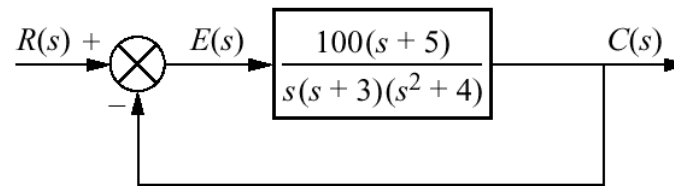
Sistema 1



Sistema 2



Sistema 3



Sistema 4

Fig. P10.2

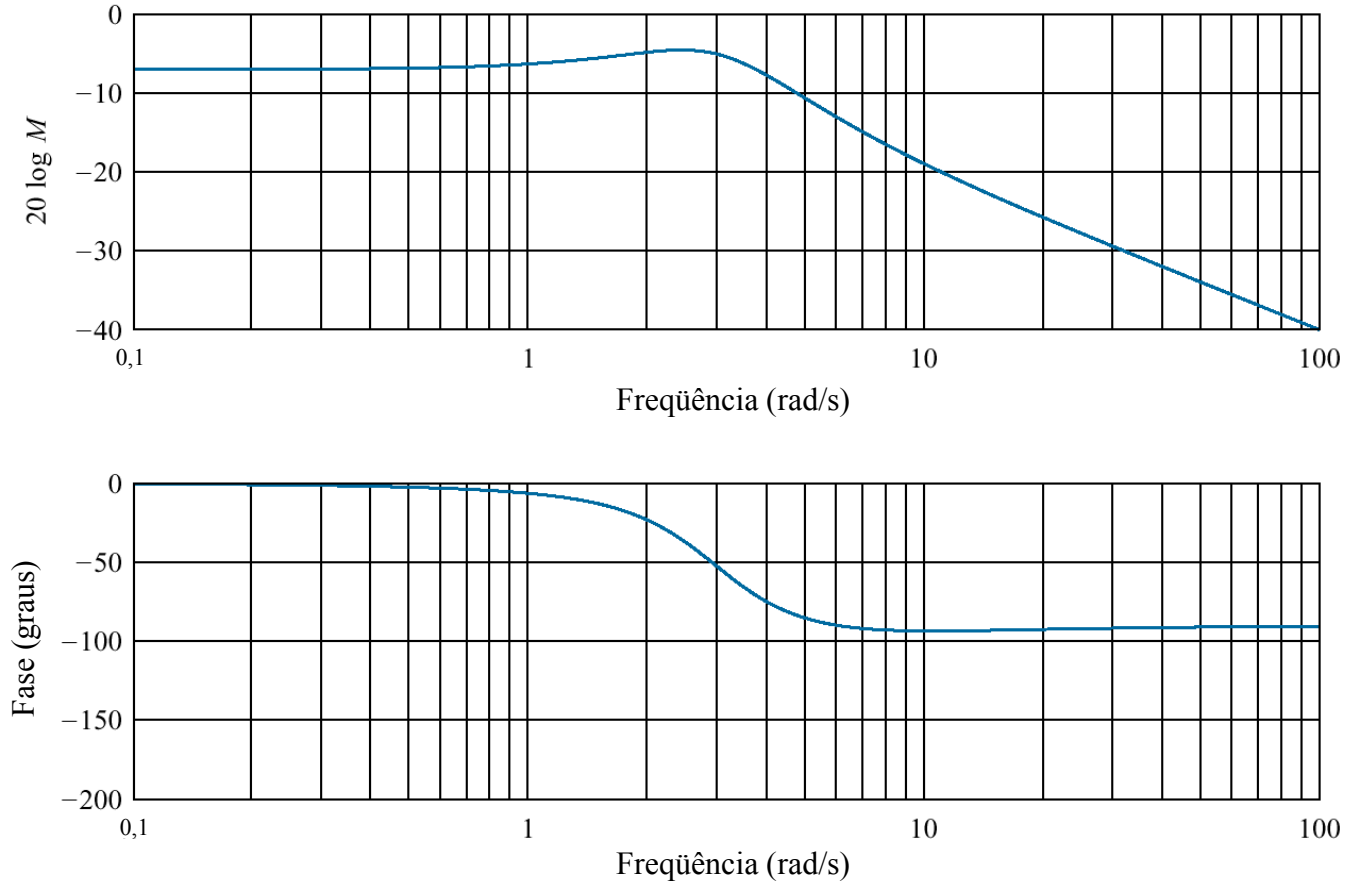


Fig. P10.3

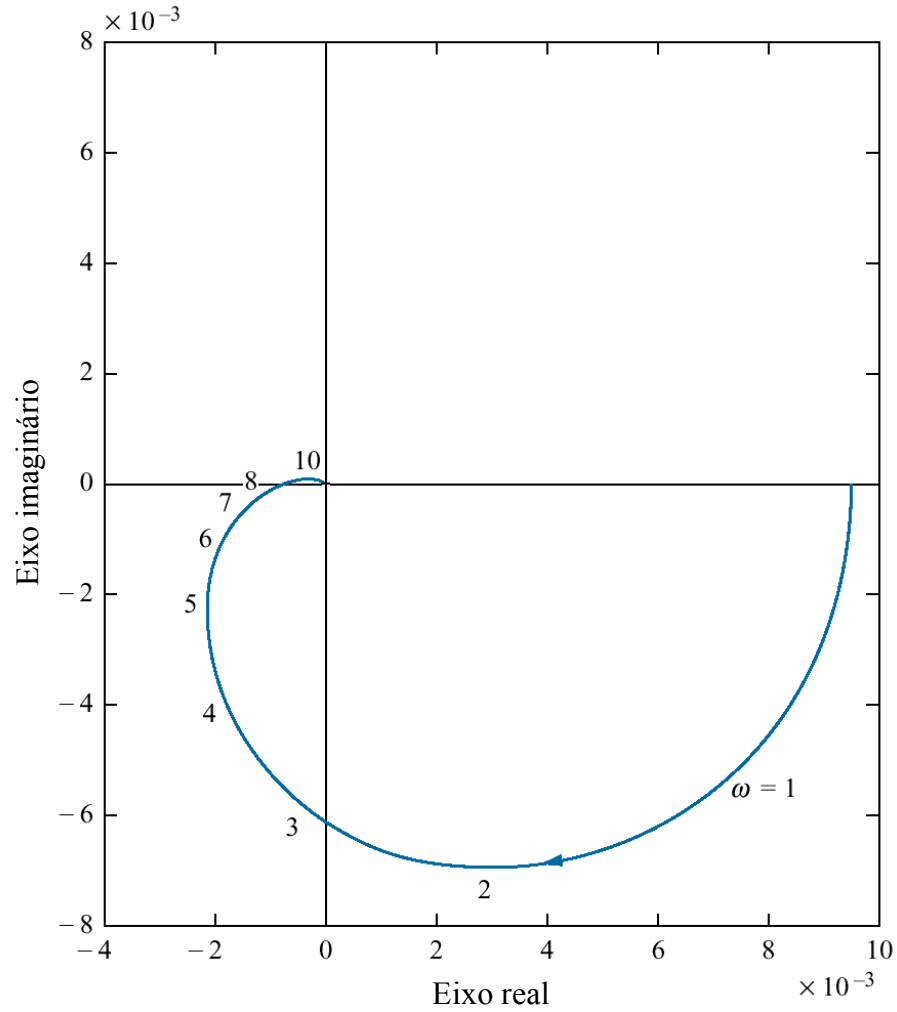


Fig. P10.4

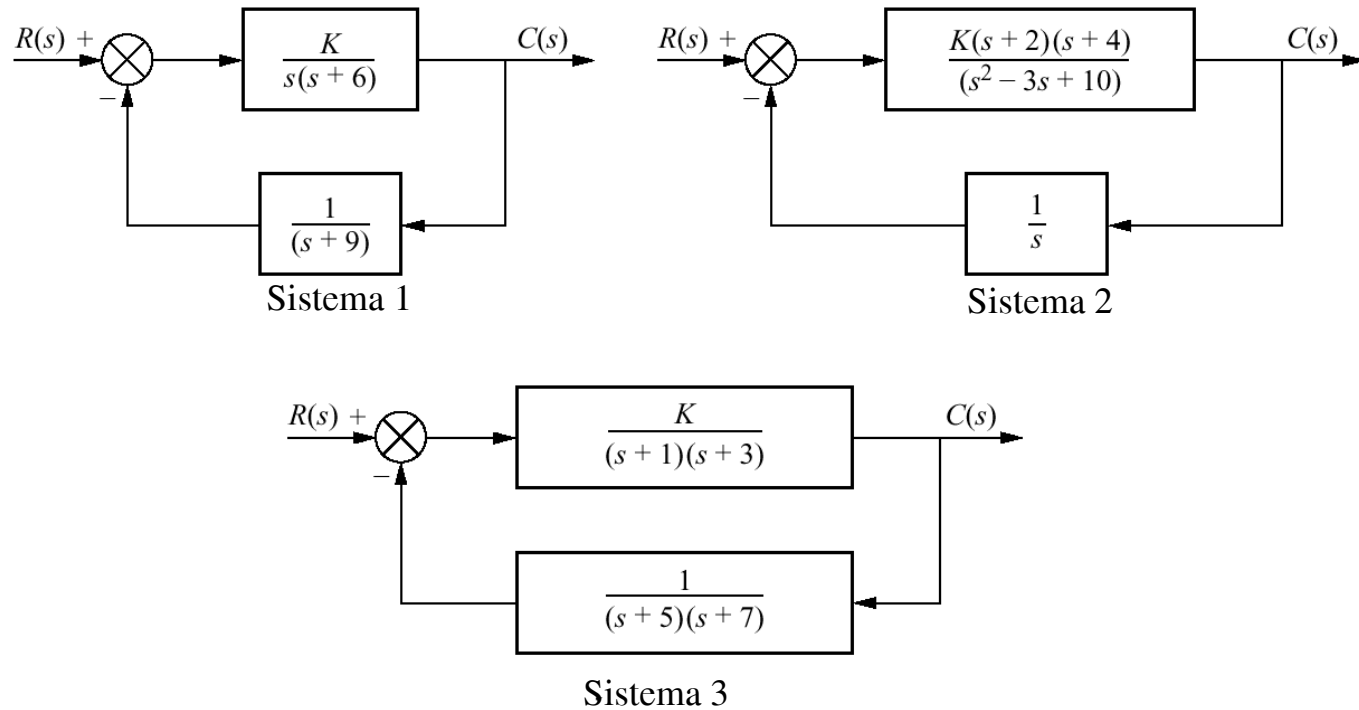


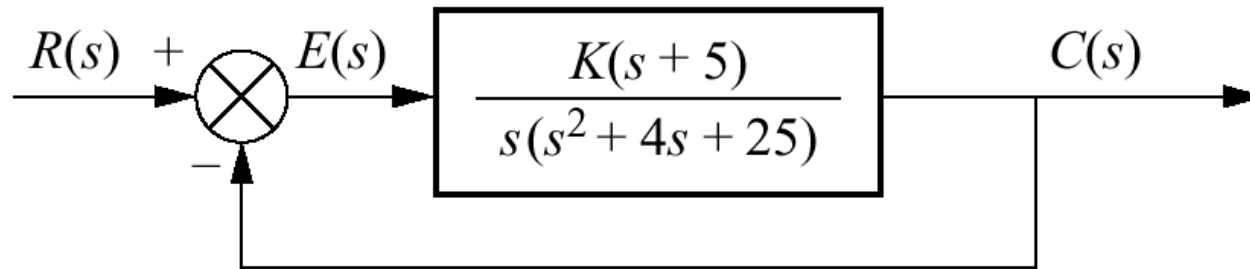
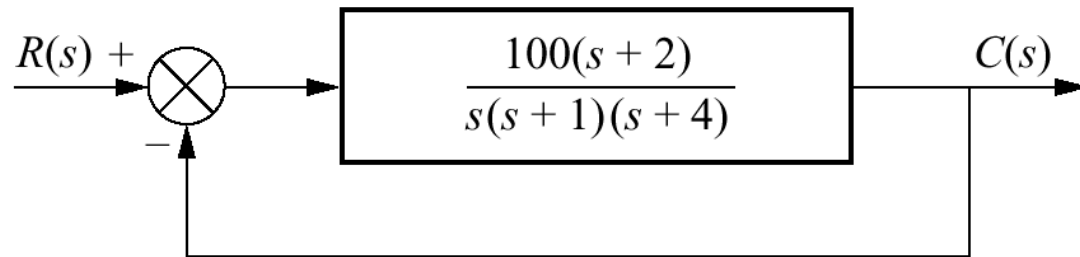
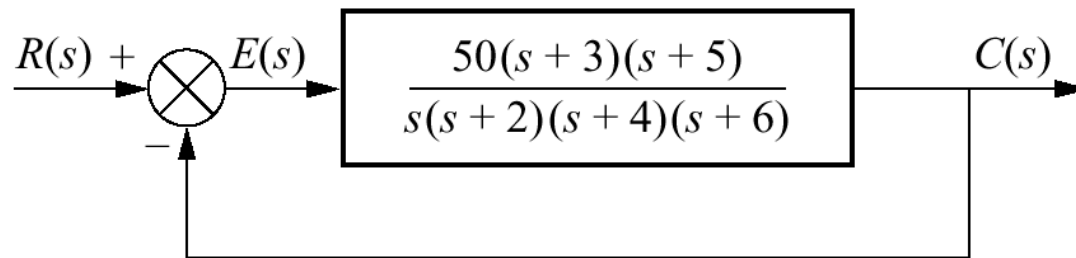
Fig. P10.5

Fig. P10.6



Sistema 1



Sistema 2

Fig. P10.7

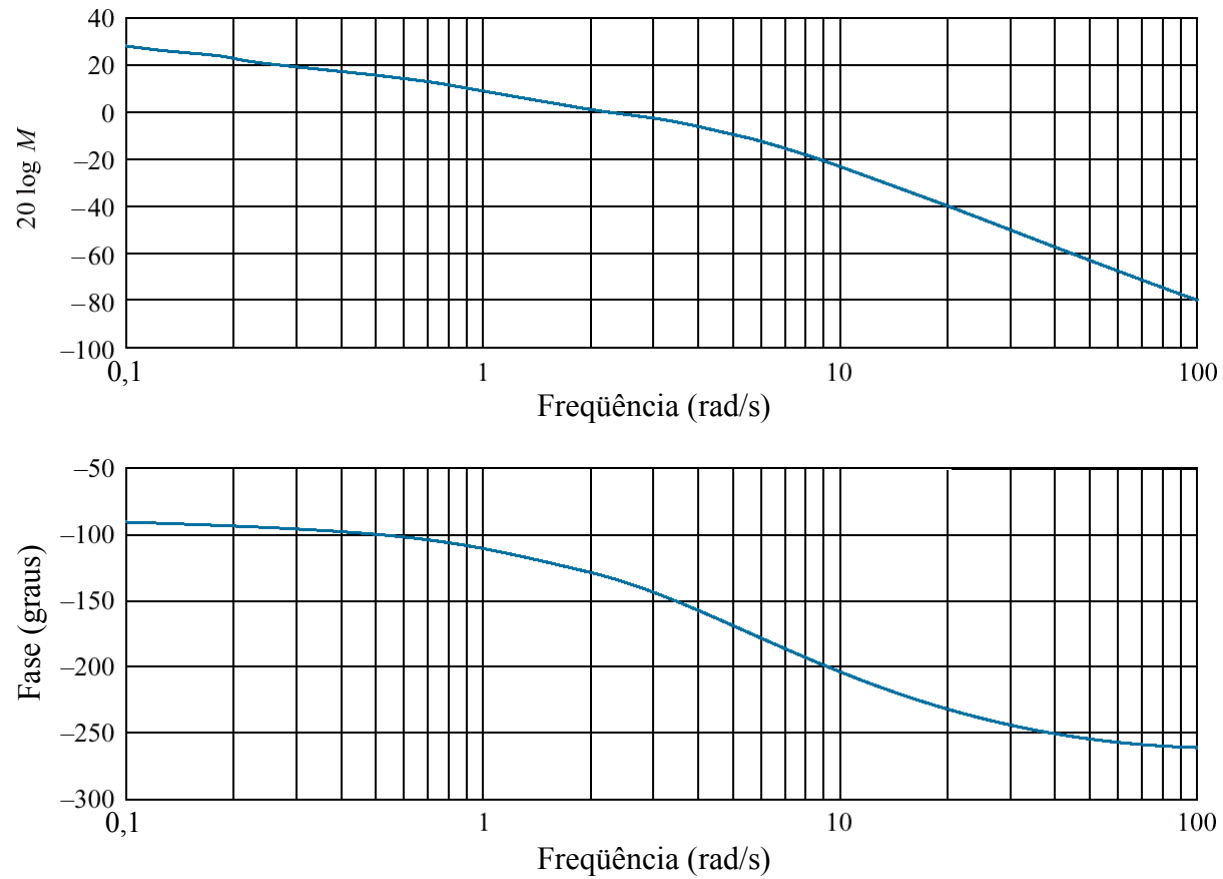


Fig. P10.8

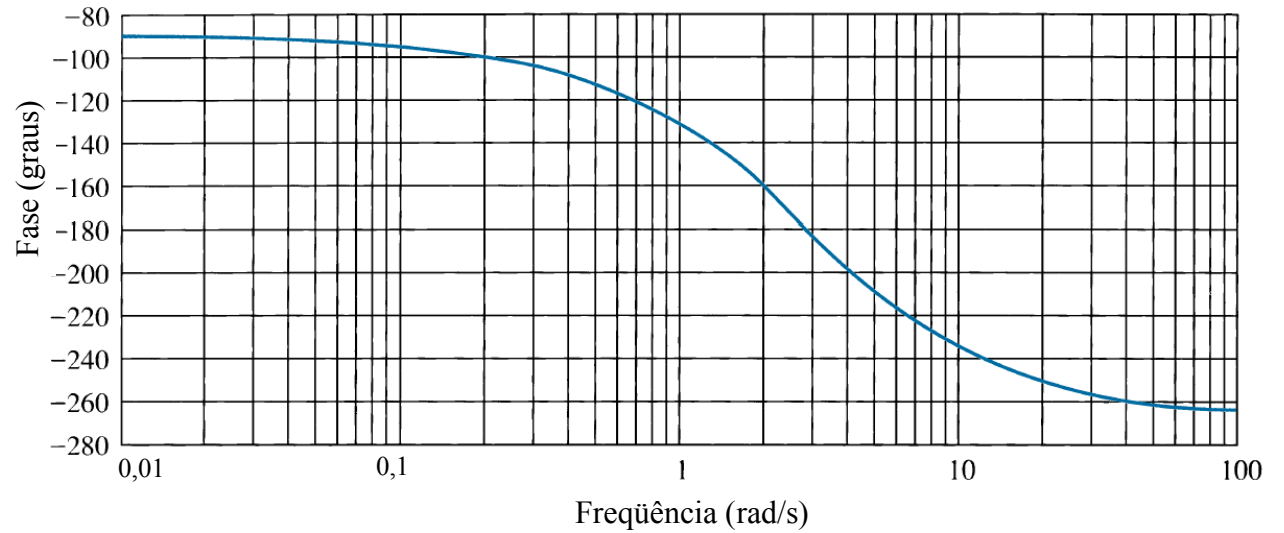
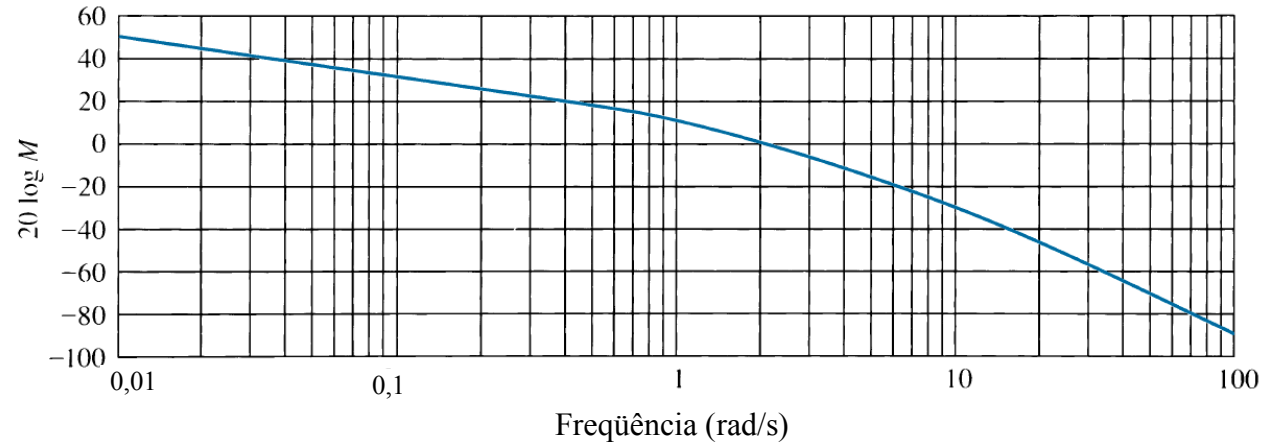


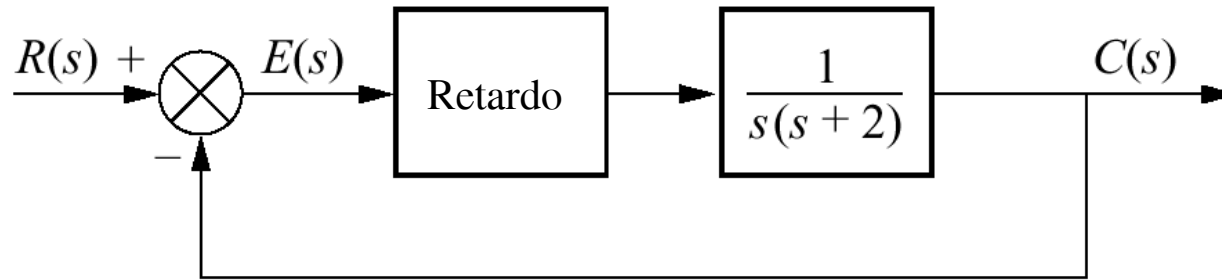
Fig. P10.9

Fig. P10.10

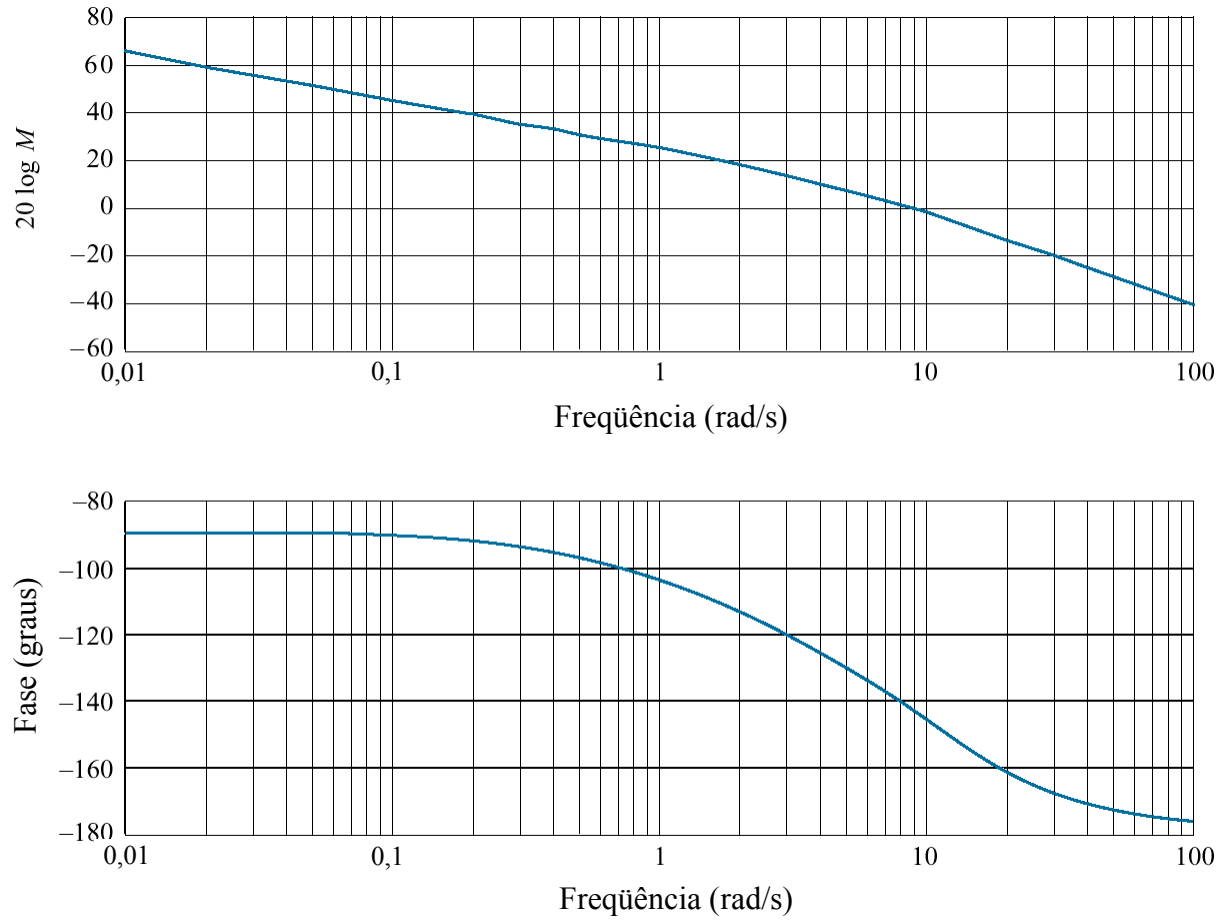


Fig. P10.11

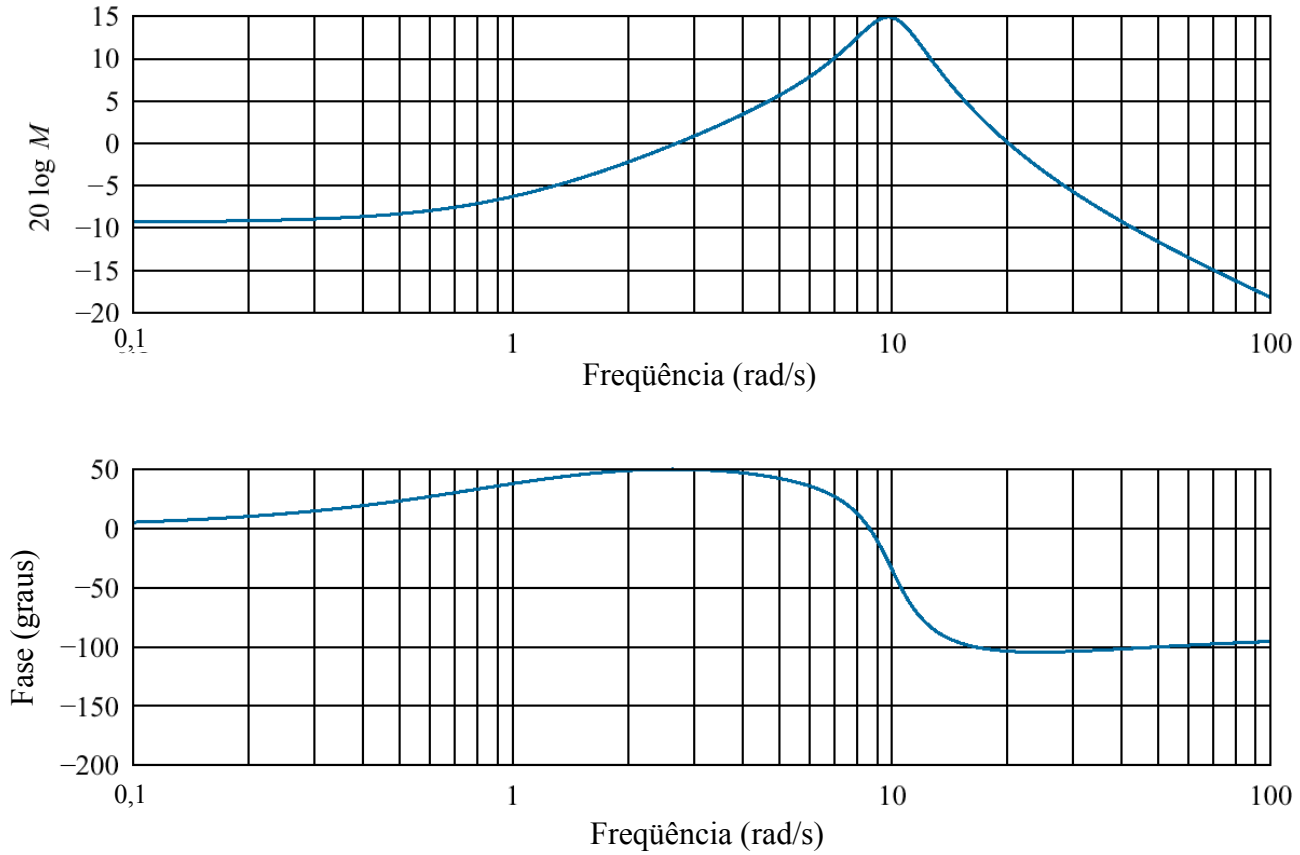


Fig. P10.12

Diagrama de blocos do sistema de controle de posicionamento Soft Arm

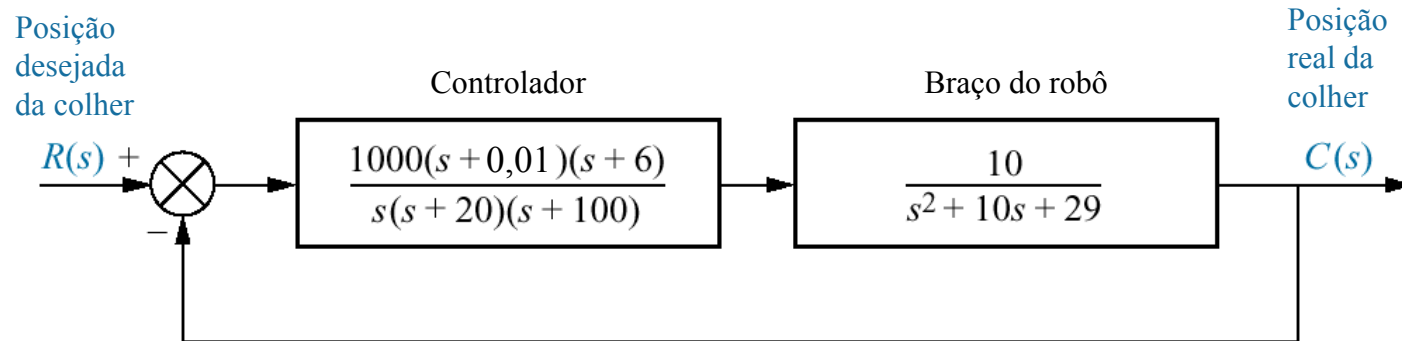


Fig. P10.13

Diagrama de blocos de acionador de disco flexível

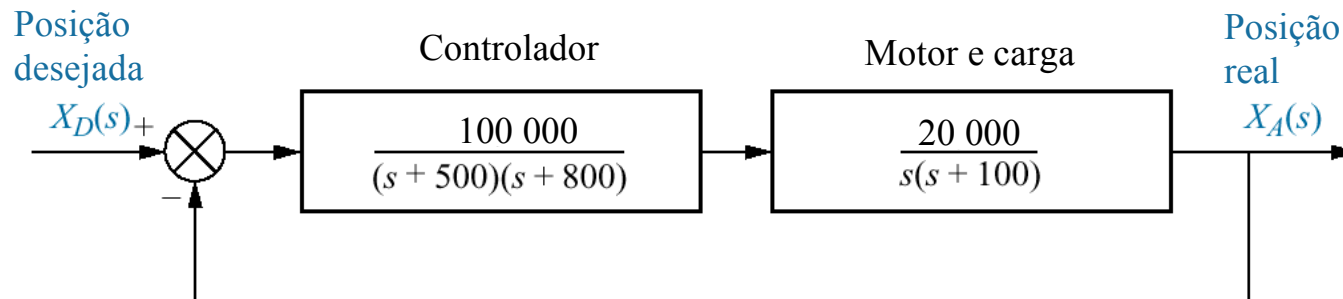


Fig. P10.14

AdeptOne, um robô industrial de quatro ou cinco eixos, é usado para montagem, embalagem e outras tarefas de manufatura



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Fig. P10.15

- a. Vista em corte de uma câmara fotográfica Nikon 35 mm mostrando partes do sistema CCD de focalização automática;
- b. diagrama de blocos funcional;
- c. diagrama de blocos

Cortesia de Nikon, Inc.

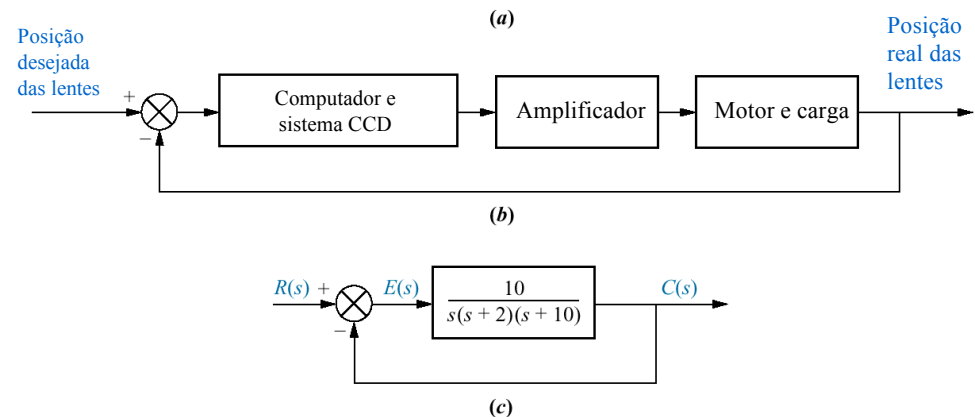


Fig. P10.16

Diagrama de blocos de um sistema de estabilização de rolamento de um navio

