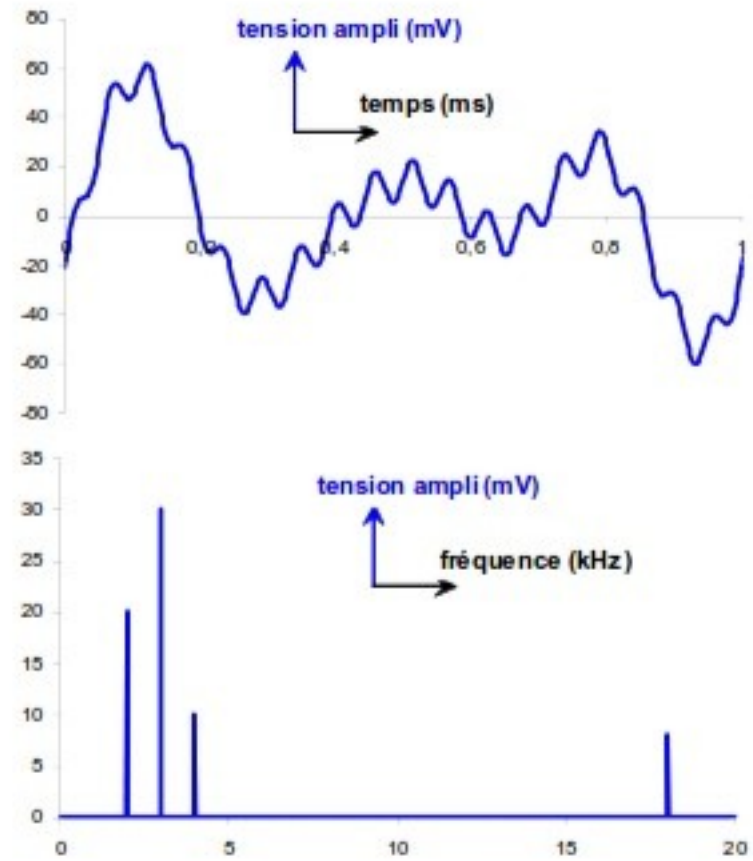
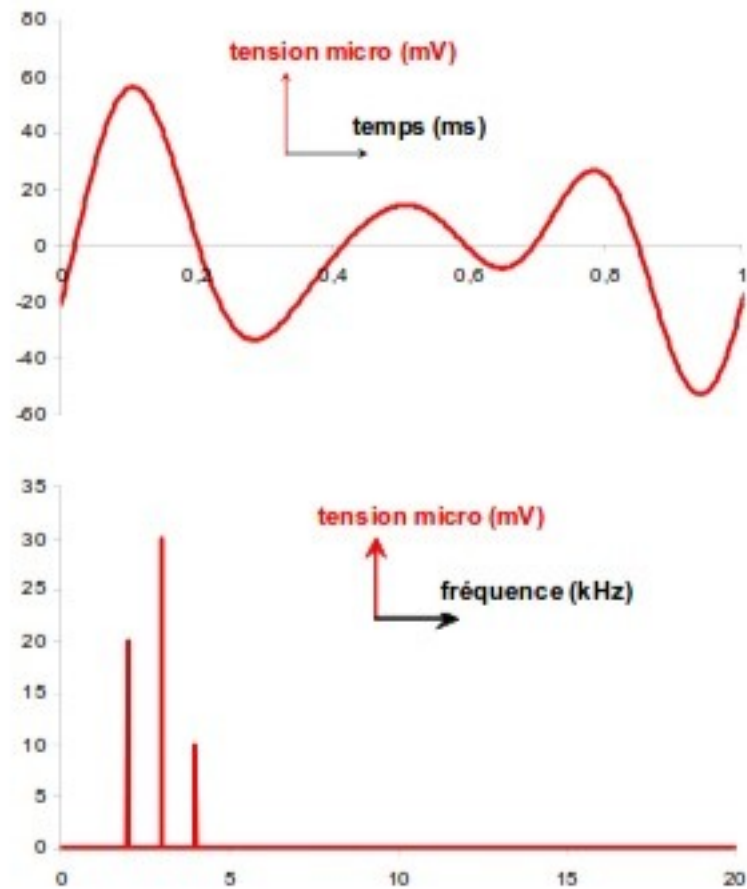


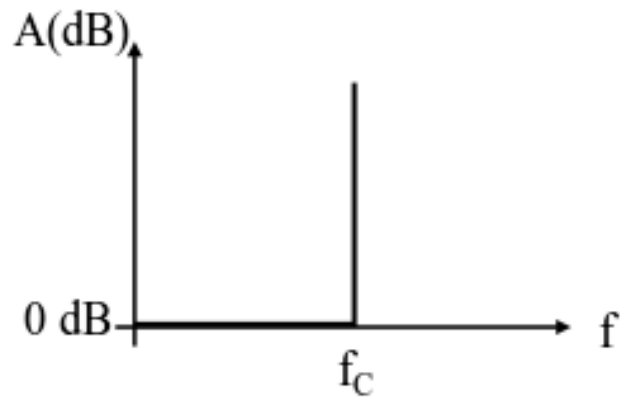
Nécessité du filtrage



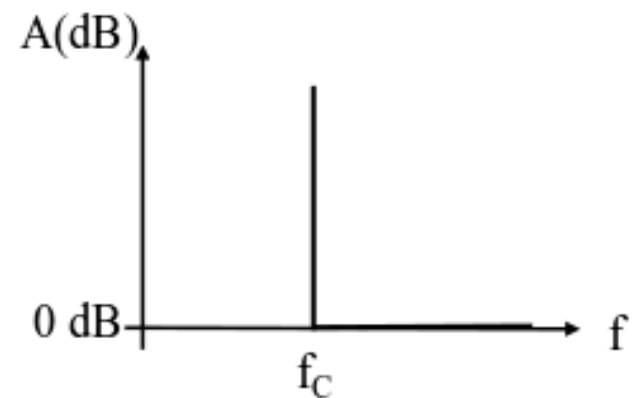
Utilité d'un filtre

- **extraire** une partie du signal d'entrée (fondamental, valeur moyenne, bande de fréquences)
- **éliminer ou affaiblir** une partie du signal d'entrée (partie continue, parasites indésirables ...)
- **modifier la phase** du signal d'entrée sans changer son spectre

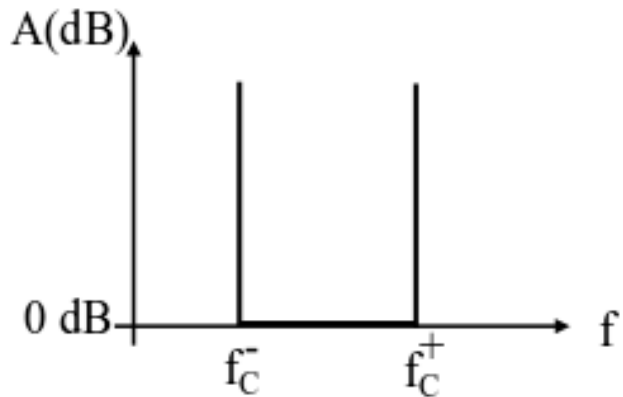
Gabarit d'un filtre



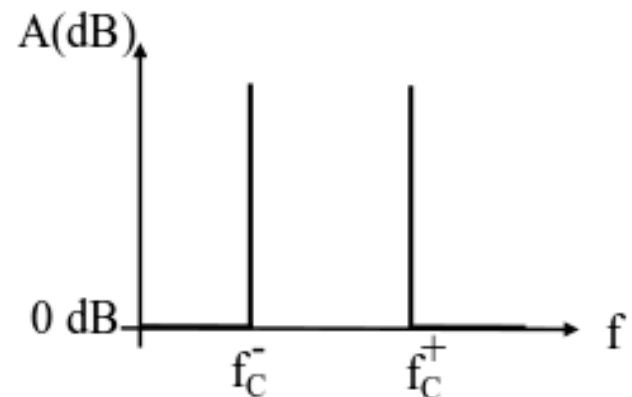
Filtre Passe bas



Filtre Passe haut

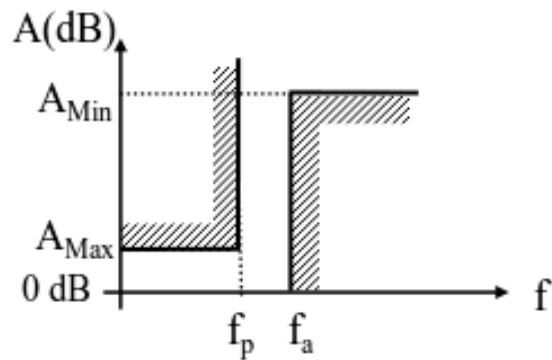


Filtre Passe bande

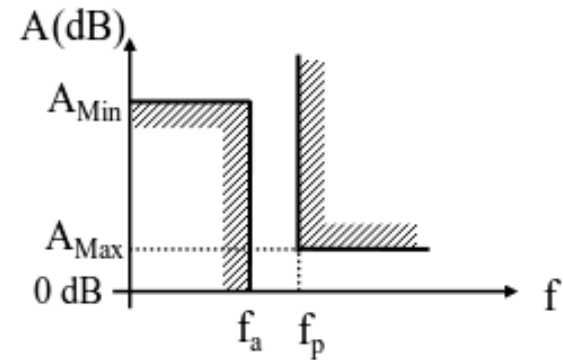


Filtre Coupe bande

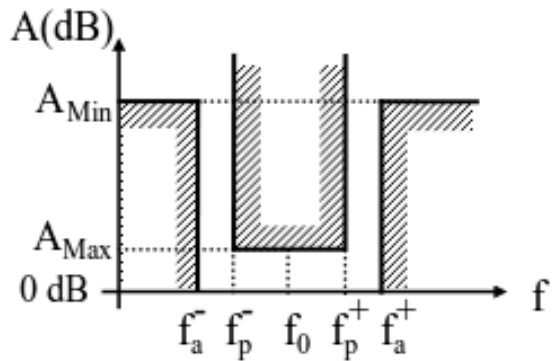
Gabarit d'un filtre



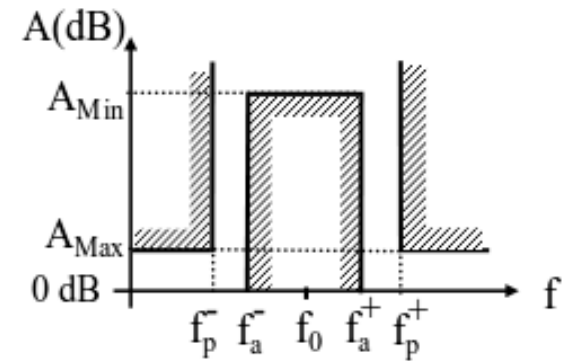
Filtre Passe bas



Filtre Passe haut



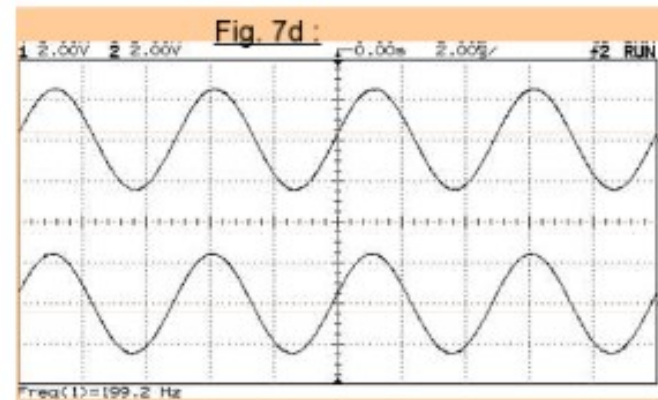
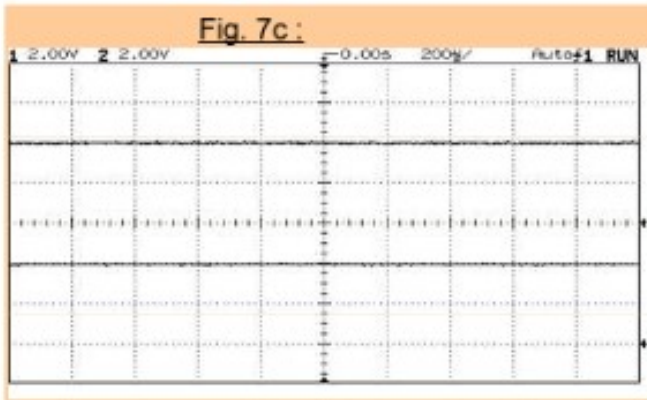
Filtre Passe bande



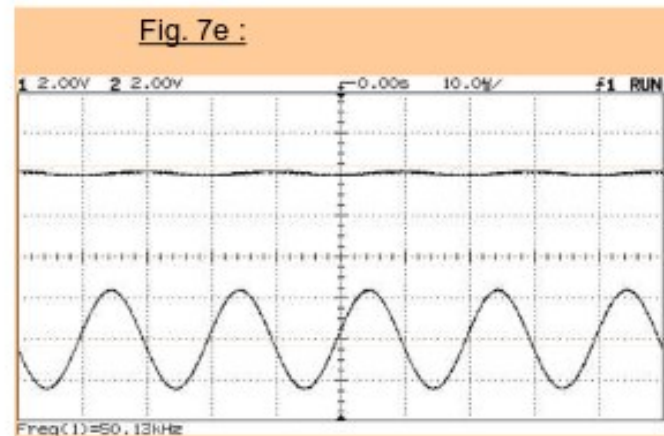
Filtre Coupe bande

Effet d'un filtre passe-bas

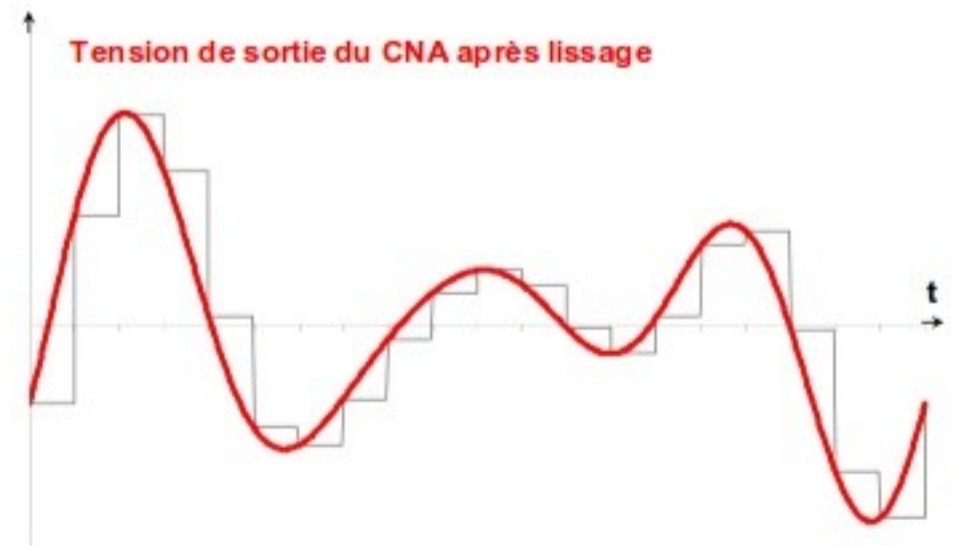
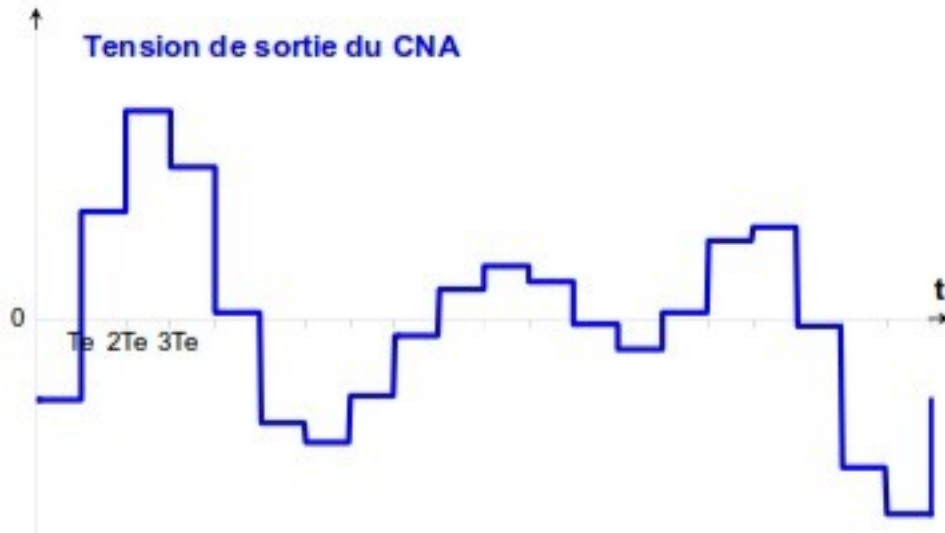
En régime continu et en basse fréquence ($f \ll f_C$), $u_S = u_E$:



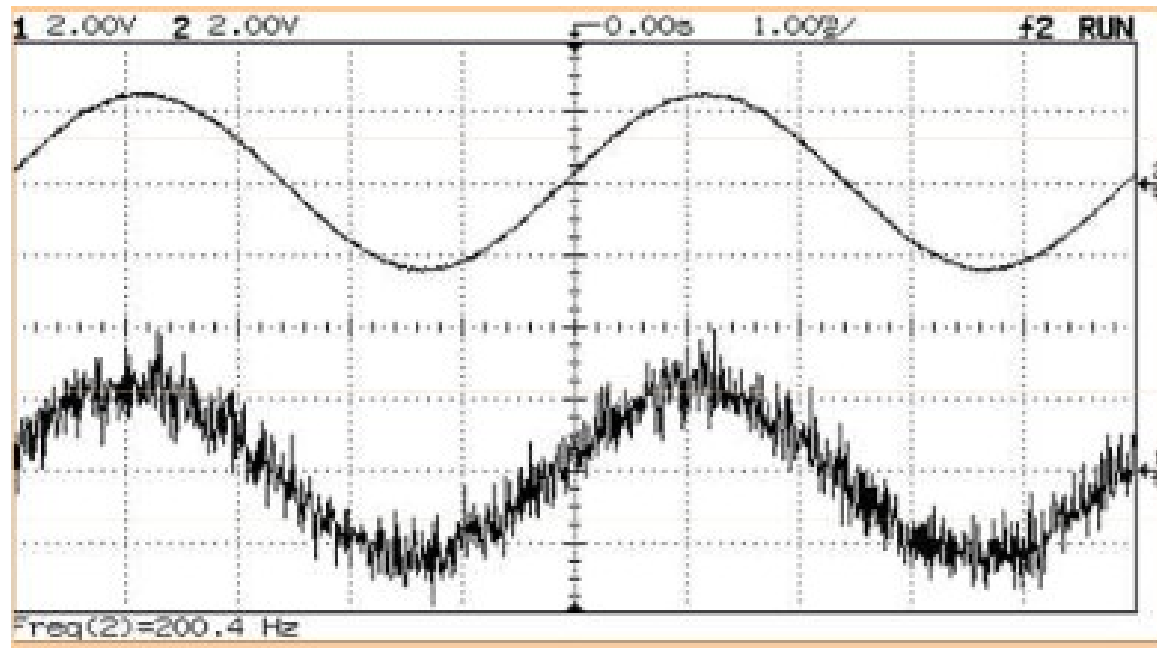
En haute fréquence ($f \gg f_C$), le signal de sortie s'annule :



Application d'un filtre passe-bas

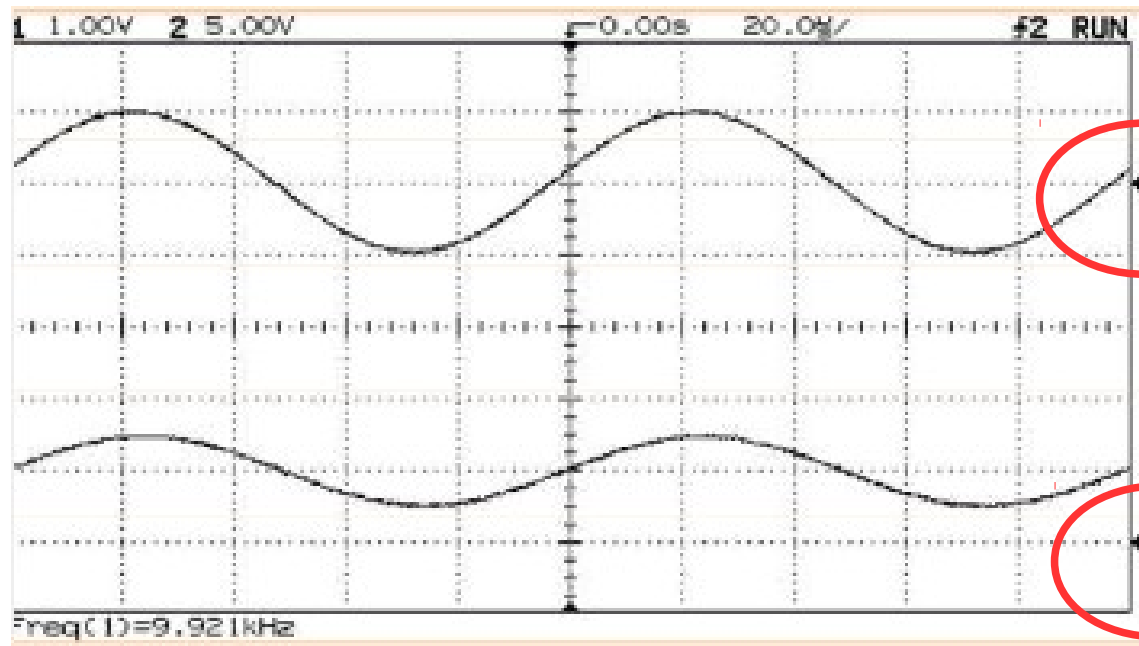


Application d'un filtre passe-bas



Élimination du bruit

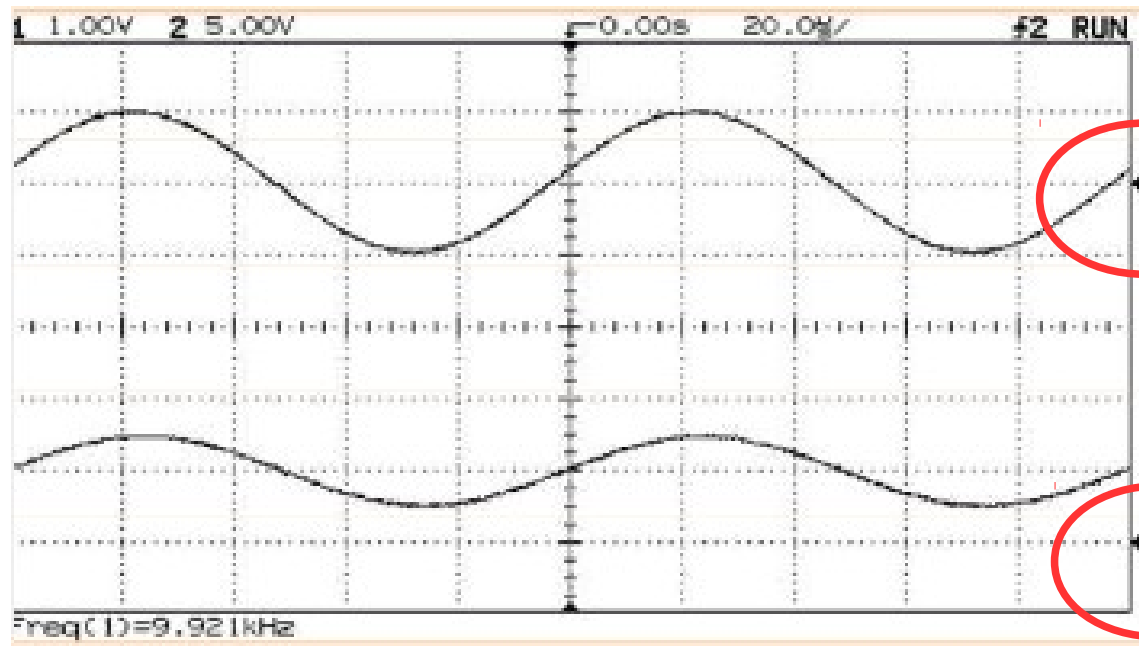
Application d'un filtre passe-haut



**Élimination de la composante continue
(filtre AC)**

Offset
(tension de décalage)

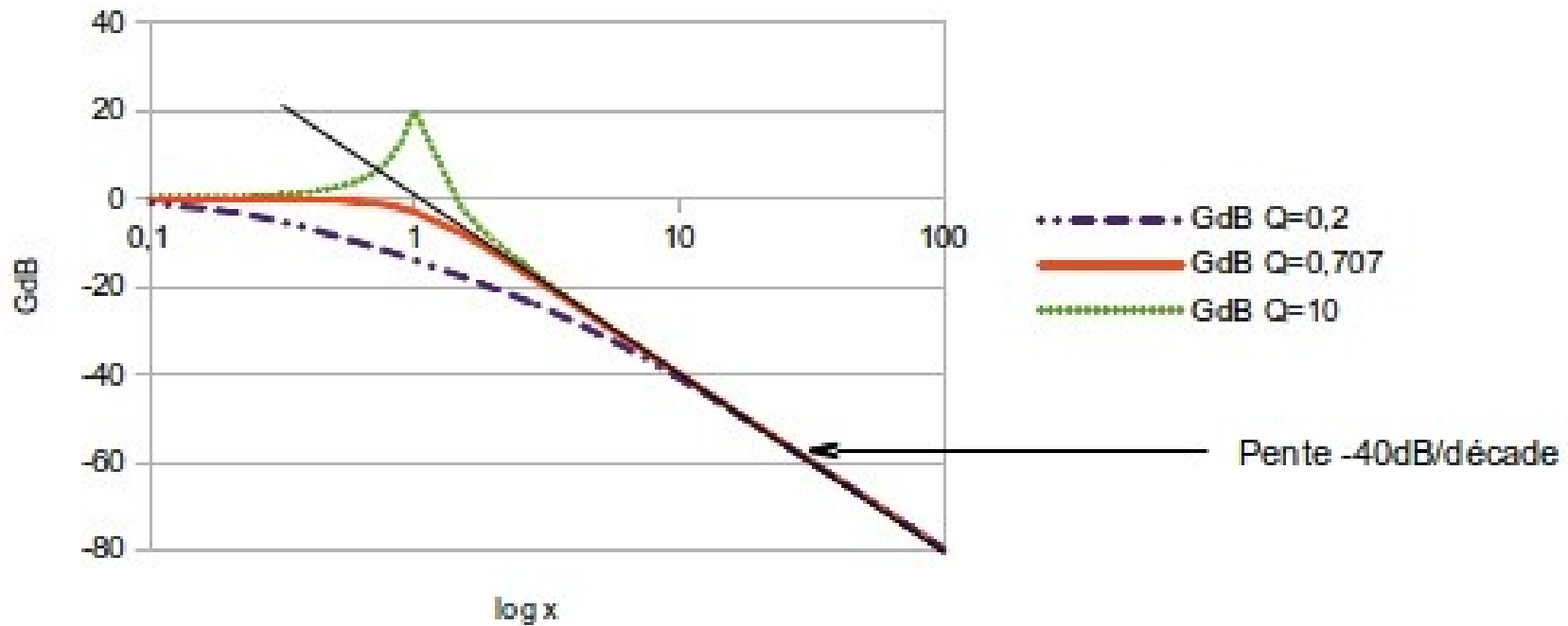
Application d'un filtre passe-haut



**Élimination de la composante continue
(filtre AC)**

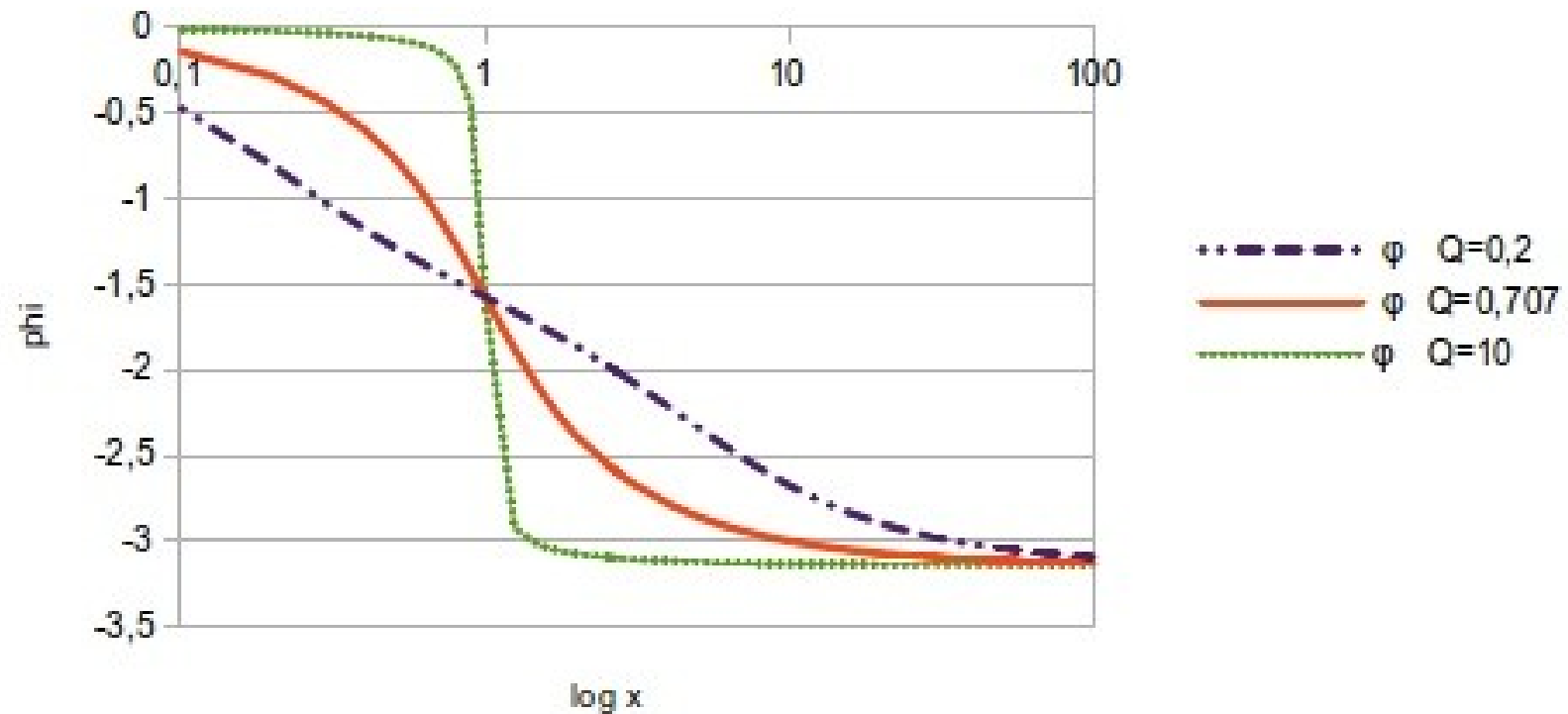
Filtre passe-bas d'ordre 2

Courbe de gain

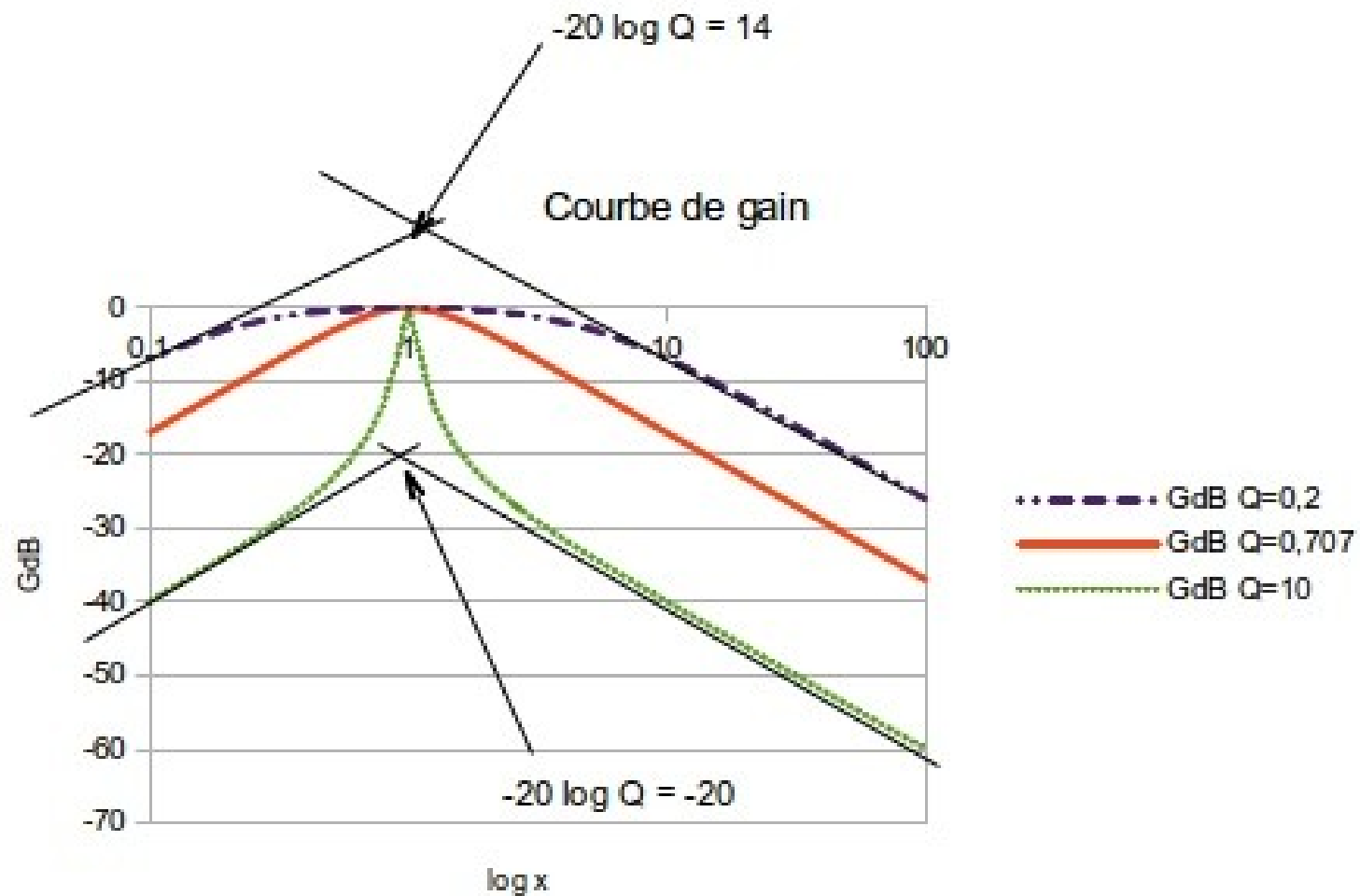


Filtre passe-bas d'ordre 2

courbe de phase



Filtre passe-bande d'ordre 2



Filtre passe-bande d'ordre 2

courbe de phase

