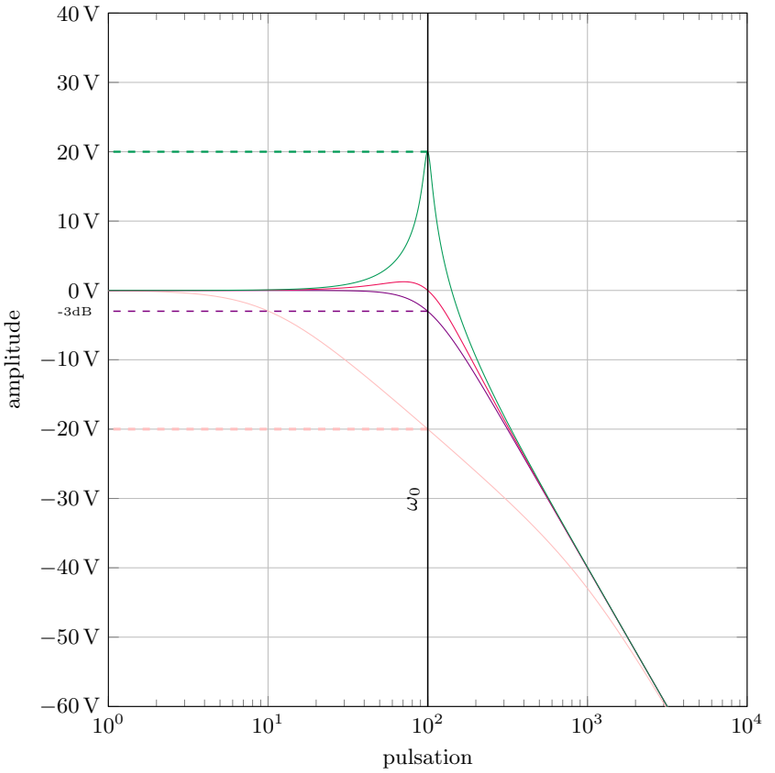
Les 4 filtres parfaits du second ordre

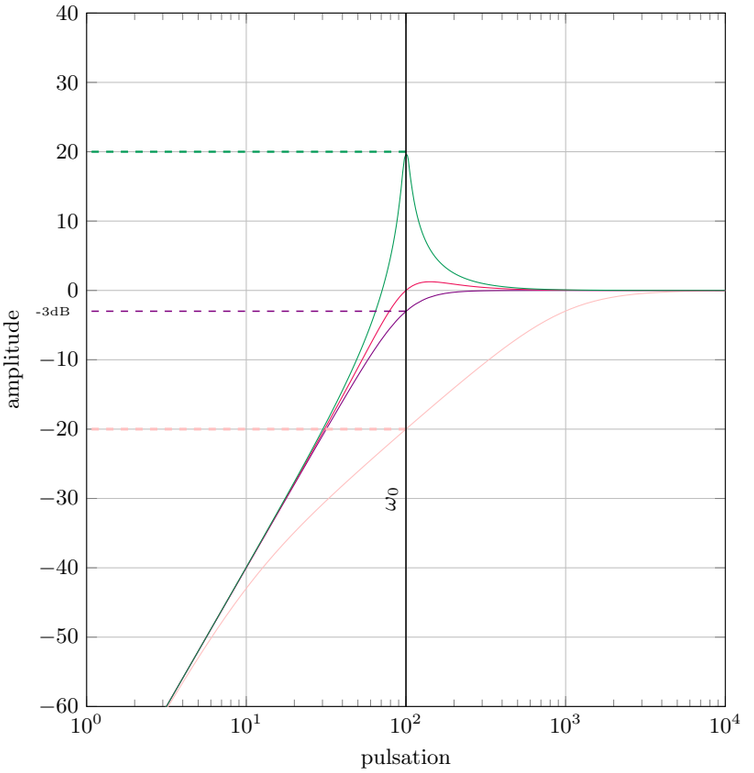
$$\underline{H}(j\omega) = \frac{1}{1+\frac{1}{Q}j\frac{\omega}{\omega_0}+(j\frac{\omega}{\omega_0})^2}$$

Passe-bas



$$\underline{H}(j\omega) = \frac{(j\frac{\omega}{\omega_0})^2}{1+\frac{1}{Q}j\frac{\omega}{\omega_0}(j\frac{\omega}{\omega_0})^2}$$

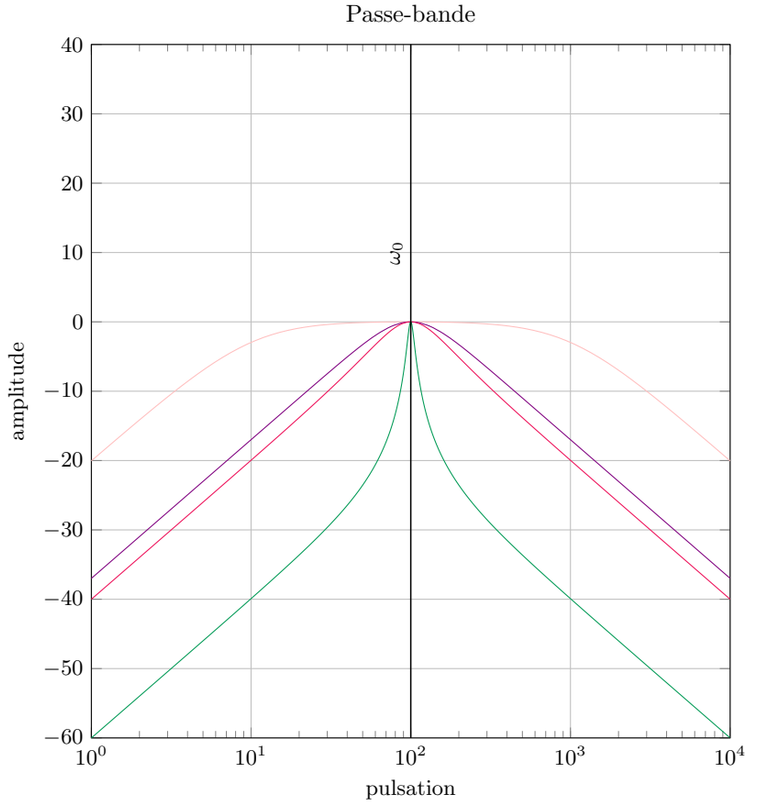
Passe-haut



$Q = \frac{1}{10}$ $Q = \frac{\sqrt{2}}{2}$ $Q = 1$ $Q = 10$

$$\underline{H}(j\omega) = \frac{\frac{1}{Q}j\frac{\omega}{\omega_0}}{1+\frac{1}{Q}j\frac{\omega}{\omega_0}(j\frac{\omega}{\omega_0})^2}$$

Passe-bande



$$\underline{H}(j\omega) = \frac{1-(\frac{\omega}{\omega_0})^2}{1+\frac{1}{Q}j\frac{\omega}{\omega_0}(j\frac{\omega}{\omega_0})^2}$$

Coupe-bande