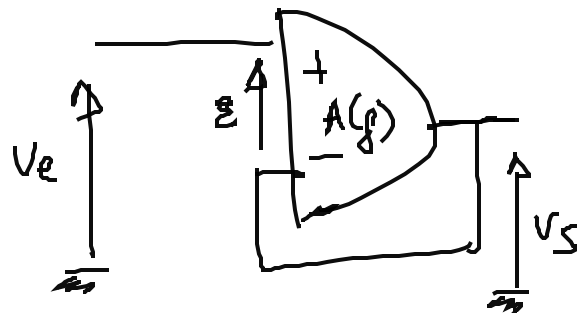


$$A_v(f) = \frac{A_0}{1 + jf/f_0}$$

Ampli Op seul

Ampli réel : $v^+ \neq v^-$ $v^+ - v^- = \varepsilon$



$$\left. \begin{aligned} v_s &= A_v \cdot \varepsilon \\ \varepsilon &= v^+ - v^- \end{aligned} \right\} \Rightarrow v_s = A_v (v^+ - v^-)$$

$$\left. \begin{aligned} v^- &= v_s \\ v^+ &= v_e \end{aligned} \right\} \Rightarrow v_s = A_v (v_e - v_s)$$

$$v_s (1 + A_v) = A_v \cdot v_e \Rightarrow \frac{v_s}{v_e} = \frac{A_v}{1 + A_v}$$

$$G_{\text{montage}} = \frac{v_s}{v_e} = \frac{\frac{A_0}{1 + jf/f_0}}{1 + \frac{A_0}{1 + jf/f_0}} = \frac{A_0}{1 + jf/f_0 + A_0} = \underbrace{\frac{A_0}{1 + A_0}}_{G_0 \text{ en BF}} \cdot \underbrace{\frac{1}{1 + j \frac{f}{f_0(1+A_0)}}}_{\text{Pole d'ordre 1}} = \frac{1}{1 + j \frac{f}{f_c}}$$

$f_c = f_0 (1 + A_0)$