9

maille d'entrée :

$$M_i = h_{11e} \cdot i_b + R_E \cdot i_c$$

" de sortie : $M_o = + R_E \cdot i_c$

$$G_u = \frac{M_o}{M_i}$$

$$i_2 = h_{21} \cdot i_b + h_{22} \cdot M_2$$

$$i_c = (\beta+1) \cdot i_b + \frac{M_o}{\rho}$$

$$i_c = (\beta+1)\, i_b \times \left(\frac{\rho}{\rho + R_E} \right) \rightarrow |G_i| = \frac{i_c}{i_b} = \frac{\rho(\beta+1)}{\rho + R_E}$$

$$|G_i| = \frac{12{,}5 * 122}{12{,}5 + 2{,}7} = \underline{100}$$

$$-G_u = \frac{M_o}{M_i} = \frac{R_E \cdot i_c}{h_{11} \cdot i_b + R_E \cdot i_c} = \frac{R_E}{\frac{h_{11}}{G_i} + R_E}$$

$$= \frac{R_E}{R_E + \frac{h_{11e} \cdot \rho + R_E}{\rho(\beta+1)}} = \frac{\rho R_E (\beta+1)}{h_{11_e}(\rho + R_E) + \rho \cdot R_E(\beta+1)} = \underline{0{,}993}$$

Résistance d'entrée :

$$R_e = \frac{u_i}{i_b} = \frac{h_{11e} \cdot i_b + R_E \cdot i_c}{i_b} = h_{11e} + R_E \cdot G_i$$

$$= h_{11e} + \frac{R_E \cdot \rho(\beta+1)}{\rho + R_E} = \underline{271\ k\Omega}$$