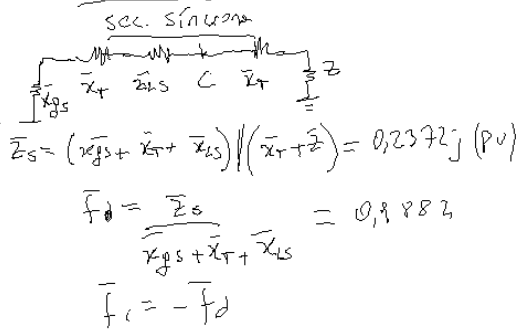


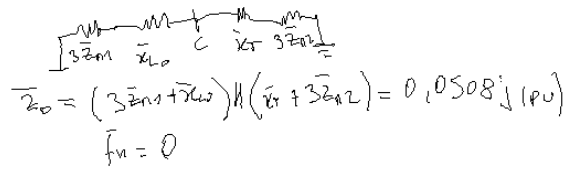
Bases : $V_{b1} = 15 \text{ kV}$, $V_{b2} = 150 \text{ kV}$, $V_{b3} = 15 \text{ kV}$, $S_b = 100 \text{ MVA}$
 $Z_{b2} = \frac{V_{b2}^2}{S_b} = 225 \Omega$, $Z_{b1} = Z_{b3} = \frac{V_{b1}^2}{S_b} = 2,25 \Omega$

Datos : $G : \bar{x}_{gs} = 0,2 \text{ j (pu)}$, $\bar{x}_{go} = 0,3 \text{ j (pu)}$, $\bar{x}_{so} = \bar{x}_{ps}$
 $T : \bar{x}_{T} = 0,03 \text{ j (pu)}$
 $L : \bar{x}_{Ls} = \frac{2,25 \text{ j}}{Z_{b2}} = 0,01 \text{ j (pu)}$, $\bar{x}_{Lo} = \frac{6,75 \text{ j}}{Z_{b2}} = 0,03 \text{ j (pu)}$
 $Z : \bar{z}_{n1} = \frac{2,25 \text{ j}}{Z_{b2}} = 0,01 \text{ j (pu)}$, $\bar{z}_{n2} = \frac{0,225 \text{ j}}{Z_{b3}} = 0,1 \text{ j (pu)}$
 $\bar{Z} = \frac{4 \text{ j}}{Z_{b3}} = 20 \text{ j (pu)}$, $V_{od} = \frac{150 \text{ kV}}{150 \text{ kV}} = 1 \text{ (pu)}$

Defe do C



Sec. caso



$\bar{f}_{Falla} = \frac{V_{od}}{\bar{Z}_s + \bar{Z}_o + \bar{Z}_o} = -1,9045 \text{ j (pu)}$

$\bar{U}_{gi} = -\bar{f}_{Falla} \cdot \bar{f}_i \cdot \bar{x}_{go} = 0,3764 \text{ (pu)}$

$V_{gi} = U_{gi} \cdot \frac{V_{b1}}{\sqrt{3}} = 3,26 \text{ kV}$

Defe do MHA

$\bar{Z}_{ss} = \bar{x}_{gs} + \bar{x}_{T} + \bar{x}_{Ls} + \bar{x}_{T} + \bar{z} = 20,21 \text{ j (pu)}$, $\bar{Z}_{oo} = 3\bar{z}_{m1} + \bar{x}_{Lo} + \bar{x}_{T} + 3\bar{z}_{n2} = 0,39 \text{ j (pu)}$
 $\bar{Z}_{oo} = \bar{Z}_{ss}$, $\bar{f}_d = 1$, $\bar{f}_i = -1$, $\bar{f}_n = 0$

Comando para defeito

$\bar{I}_{od} = \frac{V_{od}}{(\bar{x}_{T} + \bar{z})} = -0,0499 \text{ j (pu)}$, $\bar{U}_I = \bar{I}_{od} \cdot \bar{Z}_{oo} = 1,012 \text{ (pu)}$

$\bar{I}_{ii} = \frac{-\bar{Z}_{oo} \cdot \bar{U}_I}{\bar{Z}_{ss} \bar{Z}_{oo} + \bar{Z}_{ss} \bar{Z}_o + \bar{Z}_{oo} \bar{Z}_{oo}} = 9,14 \times 10^{-4} \text{ j (pu)}$

$\bar{U}_{gi} = -\bar{I}_{ii} \cdot \bar{x}_{gs} = 1,828 \times 10^{-4} \text{ (pu)}$; $V_{gi} = U_{gi} \cdot \frac{V_{b1}}{\sqrt{3}} = 1,6 \text{ V}$