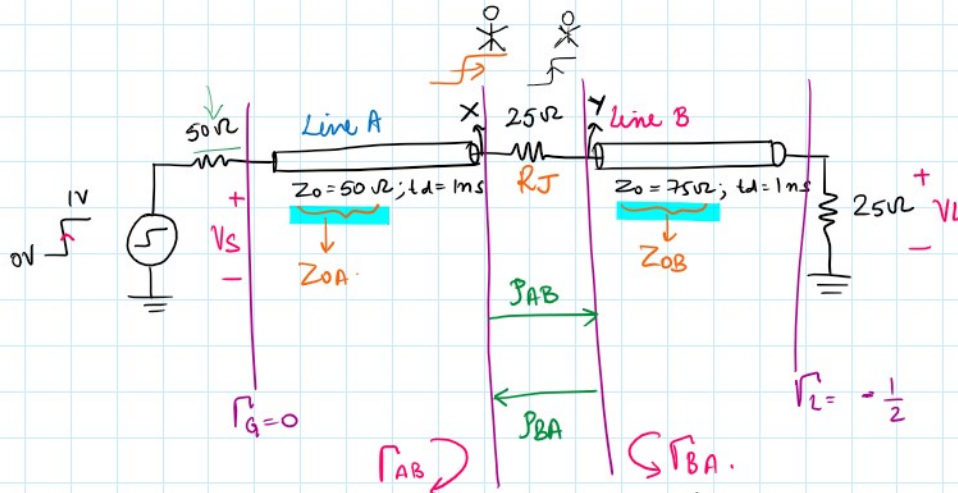


Transmission Line Intersection with a Resistance in between.



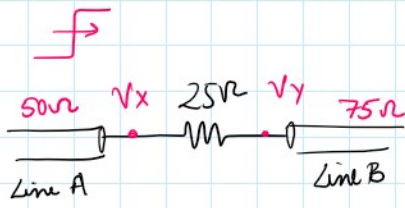
$R_J \rightarrow$ Lumped Element.

$$\Gamma_{AB} = \frac{(R_J + Z_{0B}) - Z_{0A}}{(R_J + Z_{0B}) + Z_{0A}}$$

$$\Gamma_{AB} = \frac{100 - 50}{150} = \frac{1}{3}$$

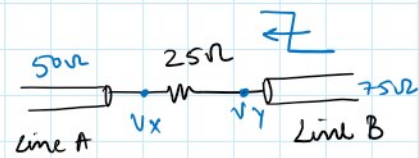
$$\Gamma_{BA} = \frac{(R_J + Z_{0A}) - Z_{0B}}{(R_J + Z_{0A}) + Z_{0B}}$$

$$\Gamma_{BA} = \frac{75 - 75}{75 + 75} = 0$$



$$V_y = \left(\frac{75}{75 + 25} \right) \cdot V_x$$

$$\rho_{AB} = \frac{V_y}{V_x} = \frac{75}{100} = \frac{3}{4}$$



$$V_x = \frac{50}{50 + 25} \cdot V_y$$

$$\rho_{BA} = \frac{V_x}{V_y} = \frac{2}{3}$$

