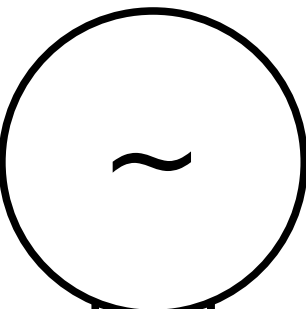


Generator



P

V_m

Branch

Y_{series}
Y_{shunt}

$$\begin{bmatrix} S_0 \\ S_1 \\ \dots \\ S_n \end{bmatrix} = \begin{bmatrix} V_0 \\ V_1 \\ \dots \\ V_n \end{bmatrix} \cdot \left(\begin{bmatrix} Y_{00} & Y_{01} & \dots & Y_{0n} \\ Y_{10} & Y_{11} & \dots & Y_{1n} \\ \dots & \dots & \dots & \dots \\ Y_{n0} & Y_{n1} & \dots & Y_{nn} \end{bmatrix} \times \begin{bmatrix} V_0 \\ V_1 \\ \dots \\ V_n \end{bmatrix} - \begin{bmatrix} I_0 \\ I_1 \\ \dots \\ I_n \end{bmatrix} \right)^*$$

P+jQ

Y_{shunt}

Shunt

I

Load