Generator

P

Vm

Branch

Yseries

Yshunt

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

P+jQ

Yshunt

I

Shunt

Load