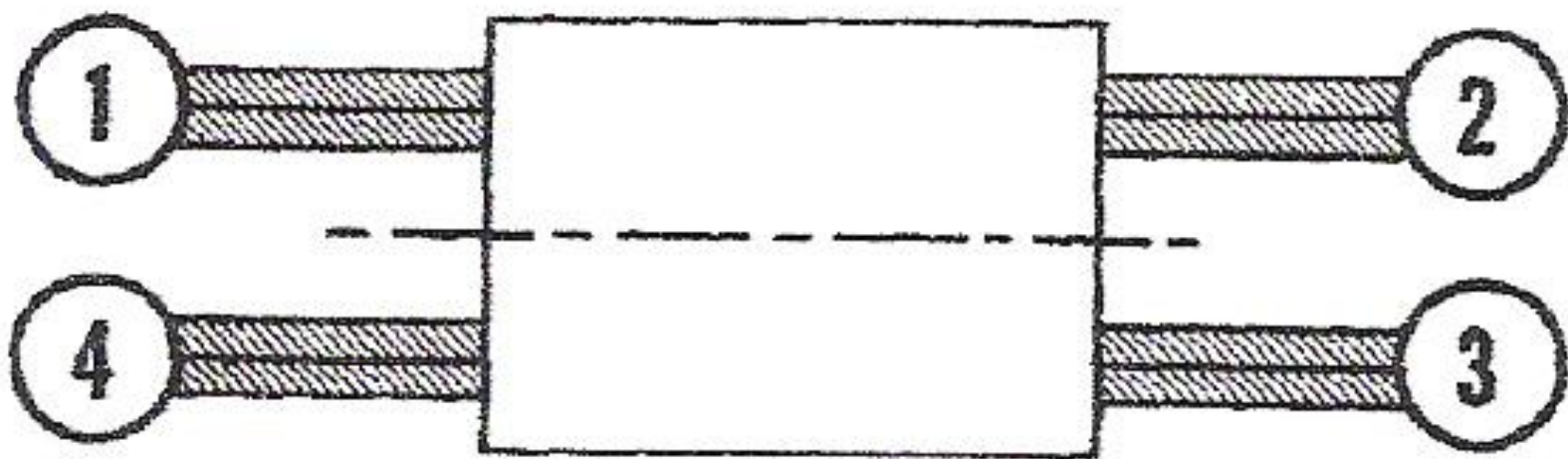
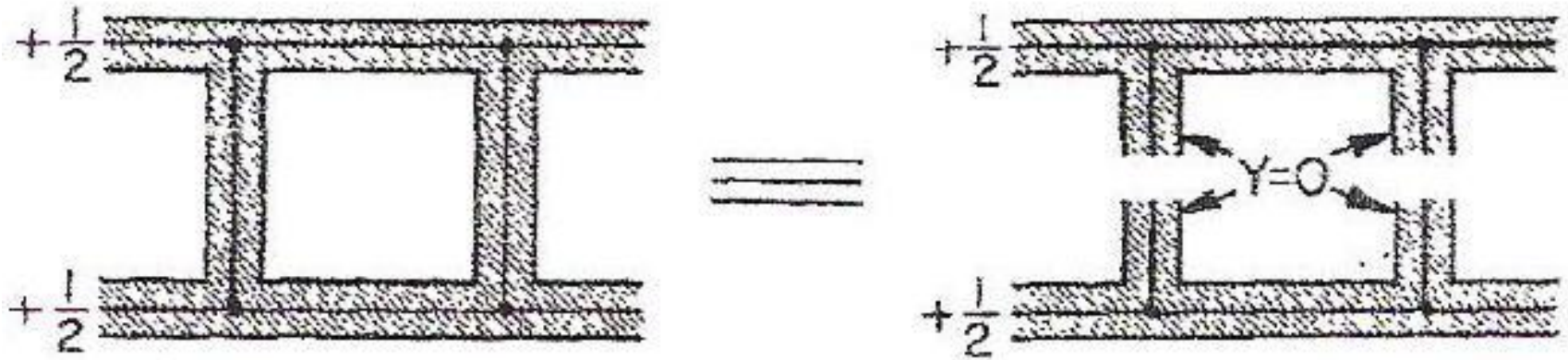


O METODA DE ANALIZĂ A CIRCUITELOR SIMETRICE CU PATRU PORȚI



Modul par



Modul impar



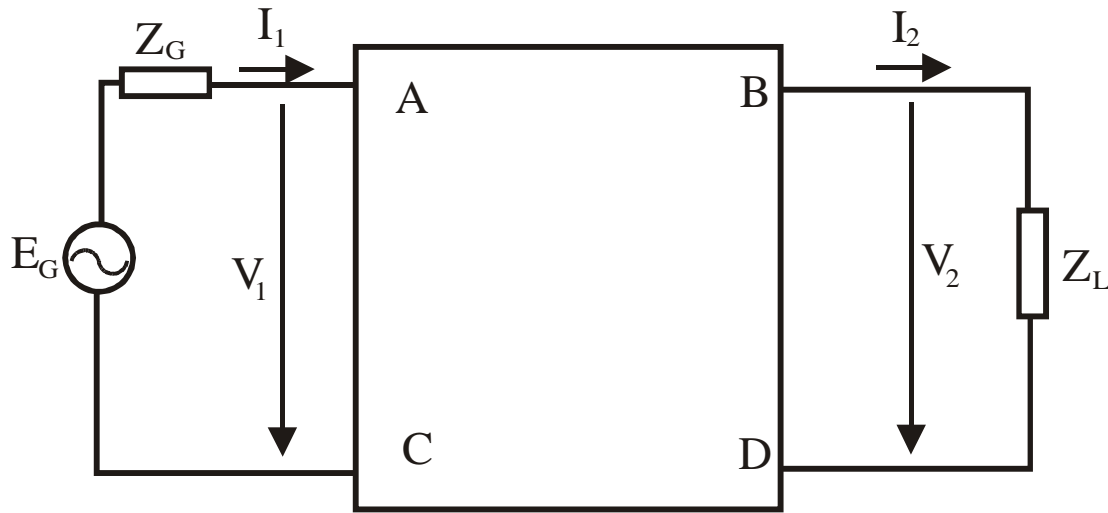
$$A_1 = \frac{1}{2}\Gamma_e + \frac{1}{2}\Gamma_o$$

$$A_2 = \frac{1}{2}T_e + \frac{1}{2}T_o$$

$$A_3 = \frac{1}{2}T_e - \frac{1}{2}T_o$$

$$A_4 = \frac{1}{2}\Gamma_e - \frac{1}{2}\Gamma_o$$

Parametrii ABCD



$$\begin{bmatrix} V_1 \\ I_1 \end{bmatrix} = \begin{bmatrix} A & B \\ C & D \end{bmatrix} \cdot \begin{bmatrix} V_2 \\ I_2 \end{bmatrix}$$

$$\begin{bmatrix} V_2 \\ I_2 \end{bmatrix} = \frac{1}{AD - BC} \begin{bmatrix} D & -B \\ -C & A \end{bmatrix} \cdot \begin{bmatrix} V_1 \\ I_1 \end{bmatrix}$$

Exemplu

$$\begin{bmatrix} A & B \\ C & D \end{bmatrix} = \begin{bmatrix} \cos \frac{2\pi z}{\lambda} & jZ_c \sin \frac{2\pi z}{\lambda} \\ \frac{j}{Z_c} \sin \frac{2\pi z}{\lambda} & \cos \frac{2\pi z}{\lambda} \end{bmatrix}$$

Proprietati

• Circuit Reciproc

$$AD - BC = 1$$

• Circuit simetric fata-spate

$$A = D$$

$$T = \frac{2}{A + B + C + D}$$

$$Z_{in} = \frac{A + B}{C + D}$$

$$\Gamma = \frac{A + B - C - D}{A + B + C + D}$$