

PRETVORBA PARAMETARA CETVEROPOLA



Ako su smjerovi napona i struja kao na slici, vrijede slijedeće matrice parametara i pripadne transformacije:

PARAMETRI	Z	Y	h
Z	$\begin{bmatrix} z_{11} & -z_{12} \\ z_{21} & -z_{22} \end{bmatrix}$	$\begin{bmatrix} \frac{y_{22}}{\Delta y} & -\frac{y_{12}}{\Delta y} \\ +\frac{y_{21}}{\Delta y} & -\frac{y_{11}}{\Delta y} \end{bmatrix}$	$\begin{bmatrix} \frac{\Delta h}{h_{22}} & \frac{h_{12}}{h_{22}} \\ -\frac{h_{21}}{h_{22}} & \frac{1}{h_{22}} \end{bmatrix}$
Y	$\begin{bmatrix} \frac{z_{22}}{\Delta z} & -\frac{z_{12}}{\Delta z} \\ +\frac{z_{21}}{\Delta z} & -\frac{z_{11}}{\Delta z} \end{bmatrix}$	$\begin{bmatrix} y_{11} & -y_{12} \\ y_{21} & -y_{22} \end{bmatrix}$	$\begin{bmatrix} \frac{1}{h_{11}} & -\frac{h_{12}}{h_{11}} \\ \frac{h_{21}}{h_{11}} & \frac{\Delta h}{h_{11}} \end{bmatrix}$
h	$\begin{bmatrix} \frac{\Delta z}{z_{22}} & \frac{z_{12}}{z_{22}} \\ +\frac{z_{21}}{z_{22}} & -\frac{1}{z_{22}} \end{bmatrix}$	$\begin{bmatrix} \frac{1}{y_{11}} & +\frac{y_{12}}{y_{11}} \\ \frac{y_{21}}{y_{11}} & -\frac{\Delta y}{y_{11}} \end{bmatrix}$	$\begin{bmatrix} h_{11} & h_{12} \\ h_{21} & h_{22} \end{bmatrix}$
g	$\begin{bmatrix} \frac{1}{z_{11}} & +\frac{z_{12}}{z_{11}} \\ \frac{z_{21}}{z_{11}} & -\frac{\Delta z}{z_{11}} \end{bmatrix}$	$\begin{bmatrix} \frac{\Delta y}{y_{22}} & \frac{y_{12}}{y_{22}} \\ +\frac{y_{21}}{y_{22}} & -\frac{1}{y_{22}} \end{bmatrix}$	$\begin{bmatrix} \frac{h_{22}}{\Delta h} & -\frac{h_{12}}{\Delta h} \\ -\frac{h_{21}}{\Delta h} & \frac{h_{11}}{\Delta h} \end{bmatrix}$
A ₁	$\begin{bmatrix} \frac{z_{11}}{z_{21}} & \frac{\Delta z}{z_{21}} \\ \frac{1}{z_{21}} & \frac{z_{22}}{z_{21}} \end{bmatrix}$	$\begin{bmatrix} +\frac{y_{22}}{y_{21}} & +\frac{1}{y_{21}} \\ \frac{y_{21}}{y_{21}} & -\frac{y_{21}}{y_{21}} \end{bmatrix}$	$\begin{bmatrix} -\frac{\Delta h}{h_{21}} & \frac{h_{11}}{h_{21}} \\ -\frac{h_{22}}{h_{21}} & +\frac{1}{h_{21}} \end{bmatrix}$

PARAMETRI	g	A ₁
Z	$\begin{bmatrix} \frac{1}{g_{11}} & -\frac{g_{12}}{g_{11}} \\ \frac{g_{21}}{g_{11}} & \frac{\Delta g}{g_{11}} \end{bmatrix}$	$\begin{bmatrix} \frac{A}{C} & -\frac{\Delta A}{C} \\ \frac{1}{C} & -\frac{D}{C} \end{bmatrix}$
Y	$\begin{bmatrix} \frac{\Delta g}{g_{22}} & \frac{g_{12}}{g_{22}} \\ -\frac{g_{21}}{g_{22}} & \frac{1}{g_{22}} \end{bmatrix}$	$\begin{bmatrix} \frac{D}{B} & -\frac{\Delta A}{B} \\ +\frac{1}{B} & -\frac{A}{B} \end{bmatrix}$
h	$\begin{bmatrix} \frac{g_{22}}{\Delta g} & -\frac{g_{12}}{\Delta g} \\ -\frac{g_{21}}{\Delta g} & \frac{g_{11}}{\Delta g} \end{bmatrix}$	$\begin{bmatrix} \frac{B}{D} & \frac{\Delta A}{D} \\ +\frac{1}{D} & -\frac{C}{D} \end{bmatrix}$
g	$\begin{bmatrix} g_{11} & g_{12} \\ g_{21} & g_{22} \end{bmatrix}$	$\begin{bmatrix} \frac{C}{A} & +\frac{\Delta A}{A} \\ \frac{1}{A} & -\frac{B}{A} \end{bmatrix}$
A ₁	$\begin{bmatrix} \frac{1}{g_{21}} & -\frac{g_{22}}{g_{21}} \\ \frac{g_{11}}{g_{21}} & -\frac{\Delta g}{g_{21}} \end{bmatrix}$	$\begin{bmatrix} A & B \\ C & D \end{bmatrix}$

Oznaka Δ označava

$$\Delta z = z_{11}z_{22} - z_{12}z_{21}$$

$$\Delta A = AD - BC$$