Метод узловых потенциалов

$ORIGIN := 1 \qquad j := \sqrt{-1}$

$$Z := \begin{bmatrix} 69-33j \\ 59 \\ -56j \\ 31j \\ 24j \\ 21 \\ -18j \\ 92 \end{bmatrix} \qquad E := \begin{bmatrix} 0 \\ 0 \\ 58 \cdot e^{j \cdot 132^\circ} \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{bmatrix}$$

$$ZD := \mathrm{diag}(Z) \qquad G := \frac{1}{ZD} \qquad ZD = \begin{bmatrix} 69-33j & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 59 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & -56j & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 31j & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 24j & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 21 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & -18j & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 92 \end{bmatrix}$$

$$A := \begin{bmatrix} 0 & 0 & 0 & 0 & -1 & 1 & 0 & 0 \\ 0 & -1 & 1 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & -1 & 1 & 0 & -1 & 0 \\ 0 & 0 & -1 & 1 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & -1 & 0 & -1 \end{bmatrix} \qquad B := \begin{bmatrix} 1 & 1 & 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 1 & 0 & 0 & -1 & 0 \\ 0 & 0 & 1 & 1 & 1 & 1 & 0 & -1 \end{bmatrix}$$

$$\Phi := \left(A \cdot G \cdot A^{\mathrm{T}}\right)^{-1} \cdot \left(-A \cdot G \cdot E\right) \qquad \Phi = \begin{bmatrix} 6.32 + 20.119j \\ 41.679 - 3.332j \\ -2.757 + 13.964j \\ -9.734 - 18.035j \\ 11.705 + 12.176j \end{bmatrix}$$

$U := A^{\mathrm{T}} \cdot \Phi$

$$U^{\mathrm{T}} = \begin{bmatrix} 11.705 + 12.176j & -41.679 + 3.332j & 51.412 + 14.702j & -6.977 - 31.999j & -9.077 - 6.154j & \dots \end{bmatrix}$$

$$IZ := G \cdot \left(U + E\right) \qquad IZ = \begin{bmatrix} 0.069 + 0.21j \\ -0.706 + 0.056j \\ -1.032 + 0.225j \\ -1.032 + 0.225j \\ -0.256 + 0.378j \\ -0.256 + 0.378j \\ 0.776 + 0.153j \\ 0.326 - 0.169j \end{bmatrix}$$