

ERIN

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$$\begin{bmatrix} U \\ U \\ \vdots \\ U_m \end{bmatrix} = \begin{bmatrix} \lambda & \lambda & \cdots & \lambda \\ \lambda & \lambda & \cdots & \lambda_m \\ \vdots & & & \vdots \\ \lambda_m & \lambda_m & \cdots & \lambda_{mm} \end{bmatrix} \begin{bmatrix} Q \\ Q \\ \vdots \\ Q_m \end{bmatrix}$$

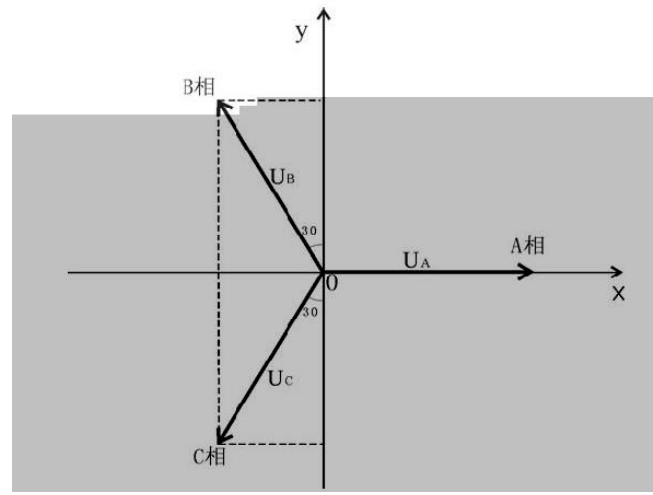
[U]

[Q]

[\lambda]

[U]

√
√



[λ]

$$\lambda_{ii} = \frac{h_i}{\pi \varepsilon R_i}$$

$$\lambda_{ij} = \frac{L_{ij}}{\pi \varepsilon L_{ij}}$$

$$\lambda_{ii} = \lambda_{ij}$$

$$\varepsilon = \frac{1}{\pi} \times \dots F m$$

R_i

R_i

$$R_i = R \cdot \sqrt[n]{\frac{nr}{R}}$$

R

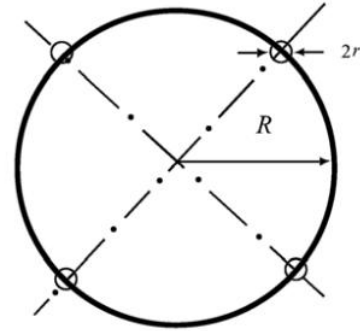
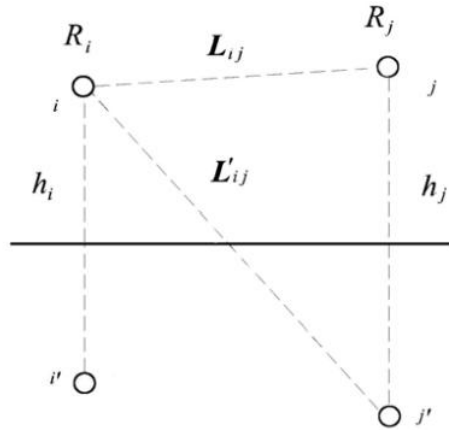
n

r

$[U]$

$[\lambda]$

$[Q]$



$$\bar{U}_i = U_{iR} + jU_{iI}$$

$$\bar{Q}_i = Q_{iR} + jQ_{iI}$$

$$[U_R] = [\lambda][Q_R]$$

$$[U_I] = [\lambda][Q_I]$$

$E \quad E$

$$E_x = \frac{1}{\pi\epsilon} \sum_{i=1}^m Q_i \left(\frac{x - x_i}{L_i} - \frac{x - x_i}{(L_i)} \right)$$

$$E_y = \frac{1}{\pi\epsilon} \sum_{i=1}^m Q_i \left(\frac{y - y_i}{L_i} - \frac{y + y_i}{(L_i)} \right)$$

$L_i \quad \dot{L}_i \quad i$

$$\begin{aligned}\bar{E}_x &= \sum_{i=1}^m E_{ixR} + \sum_{i=1}^m E_{ixI} \\ &= E_{xR} + jE_{xI}\end{aligned}$$

$$\begin{aligned}\bar{E}_y &= \sum_{i=1}^m E_{iyR} + \sum_{i=1}^m E_{iyI} \\ &= E_{yR} + jE_{yI}\end{aligned}$$

E_{xR}

E_x

E_{yR}

E_y

$$\begin{aligned}\bar{E} &= (E_{xR} + jE_{xI})\bar{x} + (E_{yR} + jE_{yI})\bar{y} \\ &= \bar{E}_x + \bar{E}_y\end{aligned}$$

$$E_x = \sqrt{E_{xR}^2 + E_{xI}^2}$$

$$E_y = \sqrt{E_{yR}^2 + E_{yI}^2}$$

$$H = \frac{1}{\pi\sqrt{h^2 + L^2}}$$

$$B = \frac{\mu_0 I}{2\pi r} T$$

