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$$u = \frac{E}{K_{kop}}, \quad (2)$$

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4- ;  $u \neq 0$  :

2- 3- 
$$K_{kop} = \frac{E}{u} \quad (4)$$

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« L », «Exel», «MathCad».

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u - ;

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$$u = \pm 1,1 \sqrt{u^2 + u^2 + u^2 + u + u + \sum_1^n u}, \% \quad (1)$$

$$a_1 = A \cos \varphi_A, \quad ja_2 = jA \sin \varphi_A, \\ = a_1 + ja_2 = A \cos \varphi_A + jA \sin \varphi_A, \quad (6)$$

$$j = \sqrt{-1}, \quad \langle \rangle - \\ : (\{ = \varphi_A - \varphi_i).$$

$$(\underline{E}_A + \underline{E}_i),$$

$$j\frac{2f}{3}$$

$$\dot{P} = \dot{I} \cdot \dot{U} = I \cdot e^{j\omega t} U \cdot e^{-j\omega t} = U \cdot I \cos\{-jU \cdot I \sin\} = P - jQ, \quad (7)$$

$$\dot{P} = \dot{U} \cdot \dot{I} + U \cdot e^{j\omega t} I \cdot e^{-j\omega t} = U \cdot I \cos\{-jU \cdot I \sin\} = P - jQ \quad (8)$$

$$Q \quad \dot{E}$$

(+j)

$$: S = U \cdot I$$

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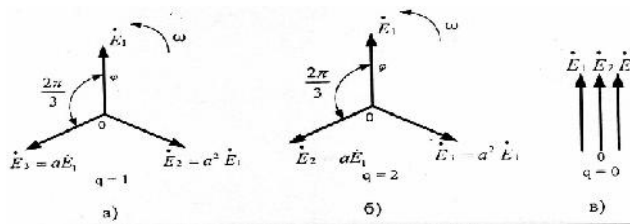
$$q \frac{2f}{m}, \quad m -$$

3-

$$(m = 3) \quad q = 1$$

$$2/3$$

$$e_1 = E_m \sin(\check{S}t + \varphi); e_2 = E_m \sin(\check{S}t + \varphi - \frac{2f}{3}); e_3 = E_m \sin(\check{S}t + \varphi - \frac{4f}{3}) \quad (9)$$



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$$\dot{E}_1 = E_1 e^{j\omega t}; \quad \dot{E}_2 = E_1 e^{-j\frac{2}{3}\omega t}; \quad \dot{E}_3 = E_1 e^{-j\frac{4}{3}\omega t}. \quad (10)$$

$$a = e^{j\frac{2f}{3}} = -\frac{1}{2} + j\frac{\sqrt{3}}{2}; \quad a^2 = e^{j\frac{4f}{3}} = -\frac{1}{2} + j\frac{\sqrt{3}}{2};$$

$$a^3 = a^{j2f} = 1; \quad a^4 = a; \quad 1 + a + a^2 = 0 \quad (11)$$

$$\dot{E}_1; \quad \dot{E}_2 = a^2 \cdot \dot{E}_1; \quad \dot{E}_3 = a \cdot \dot{E}_1 \quad (12)$$

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(1, 2, 3).

$$q = 2,$$

(.1, ).

(1, 3, 2),

$$\dot{E}_1; \quad \dot{E}_2 = a \cdot \dot{E}_1; \quad \dot{E}_3 = a^2 \cdot \dot{E}_1 \quad (13)$$

$$q = 0,$$

(.2, ),

$$\dot{E}_1 = \dot{E}_2 = \dot{E}_3. \quad (14)$$

$$\sum_{k=1}^m \dot{E}_k = 0. \quad (15)$$

$$\dot{E}_A, \dot{E}_B, \dot{E}_C,$$

$$\dot{E}_A, \dot{E}_B, \dot{E}_C$$

$$(\dot{E}_0, \dot{E}_0, \dot{E}_0),$$

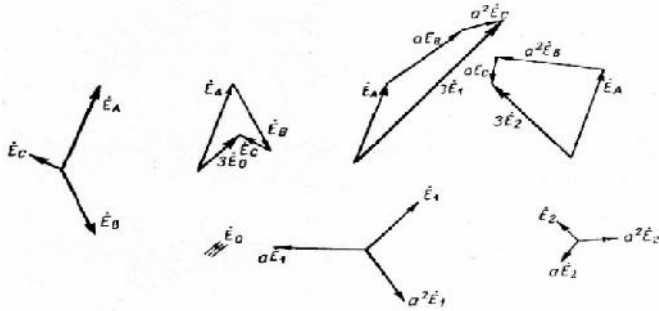
$$(\dot{E}_1, a^2\dot{E}_0, a\dot{E}_0),$$

$$\dot{E}_0, \dot{E}_1, \dot{E}_2$$

$$(\dot{E}_2, a^2\dot{E}_0, a\dot{E}_0).$$

$$\bar{E}_A, \bar{E}_B, \bar{E}_C$$

$$\begin{aligned} \dot{E}_A &= \dot{E}_0 + \dot{E}_1 + \dot{E}_2; \quad \dot{E}_B = \dot{E}_0 + a^2\dot{E}_1 + a\dot{E}_2; \\ \dot{E}_C &= \dot{E}_0 + a\dot{E}_1 + a^2\dot{E}_2. \end{aligned} \quad (16)$$



1, 2

$$(11) \quad \ll \gg$$

$$a = e^{-j\frac{2}{3f}} = \frac{1}{2} + j\frac{\sqrt{3}}{2},$$

2/3,

2/3.

« »

$$\dot{E}_0, \dot{E}_0, \dot{E}_0, \dot{E}_1, a^2\dot{E}_1, a\dot{E}_1 \quad \dot{E}_2, a\dot{E}_2, a^2\dot{E}_2,$$

$$\dot{E}_0, \dot{E}_1, \dot{E}_2$$

...  $\dot{E}_A$

$$\begin{aligned} \dot{E}_0 &= \frac{1}{3}(\dot{E}_A + \dot{E}_B + \dot{E}_C), \quad \dot{E}_1 = \frac{1}{3}(\dot{E}_A + a\dot{E}_B + a^2\dot{E}_C), \\ \dot{E}_2 &= \frac{1}{3}(\dot{E}_A + a^2\dot{E}_B + a\dot{E}_C) \end{aligned} \quad (17)$$

(16),

$$\dot{E}_0, \dot{E}_1, \dot{E}_2$$

...  $\dot{E}_A, \dot{E}_B, \dot{E}_C$

(17)

...  $\dot{E}_A, \dot{E}_B, \dot{E}_C$ ,

$$\dot{E}_0, \dot{E}_1, \dot{E}_2.$$

$$\dot{U}_{AN} = \dot{U} e^{j0}; \quad \dot{U}_{BN} = \dot{U} e^{-j120}; \quad \dot{U}_{CN} = \dot{U} e^{j120}. \quad (18)$$

$$\dot{U}_{AN} = \sqrt{3}\dot{U} e^{j30}; \quad \dot{U}_{BN} = \sqrt{3}\dot{U} e^{-j90}; \quad \dot{U}_{CA} = \sqrt{3}\dot{U} e^{j150}; \quad (19)$$

$$\begin{aligned} K &= \frac{P}{P} = \frac{U_A \cdot I_A \cdot \cos \phi_A + U_B \cdot I_B \cdot \cos \phi_B + U_C \cdot I_C \cdot \cos \phi_C}{U_A \cdot I_A \cdot \cos \phi_A + U_B \cdot I_B \cdot \cos \phi_B + U_C \cdot I_C \cdot \cos \phi_C} \\ &= \frac{\dot{P}_{A0} + \dot{P}_{A1} + \dot{P}_{A2} + \dot{P}_{B0} + \dot{P}_{B1} + \dot{P}_{B2} + \dot{P}_{C0} + \dot{P}_{C1} + \dot{P}_{C2}}{\dot{P}_{A0} + \dot{P}_{A1} + \dot{P}_{A2} + \dot{P}_{B0} + \dot{P}_{B1} + \dot{P}_{B2} + \dot{P}_{C0} + \dot{P}_{C1} + \dot{P}_{C2}}, \end{aligned} \quad (20)$$

$$\dot{P}_{A0}, \dot{P}_{A1}, \dot{P}_{A2}$$

$$\dot{P}_{B0}, \dot{P}_{B1}, \dot{P}_{B2}$$

$$\dot{P}_{C0}, \dot{P}_{C1}, \dot{P}_{C2}$$

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**SCOPING OF THE ELECTRIC POWER IN THREE-PHASE HIGH-VOLTAGE POWER SUPPLY NETWORKS ON THE ASYMMETRICAL LOAD CURRENTS**

**O. Volkova, V. Momot, V. Roy**

*Definition of the real value of the consumed electric power in case of the functional refusal of elements of a measuring complex, can be executed by compensation of a bias during the functional refusal of a measuring complex by the corresponding corrective coefficients. In work it is carried out schemes of the accounting of the electric power and classification of systems of the accounting of the electric power taking into account the nature of the asymmetrical loading is developed, process of measurement of the fissile and jet component of the electric power is investigated, the mathematical modelyopredeleniya of corrective coefficients for compensation of a bias of the electric power is improved. Methods of graphic creation of vectors are used. The analysis of results was carried out with application of a method of the automated information processing ("MATLAB", "Exel", "MathCad"). The model given in work allows to calculate corrective coefficients for compensation of the relative accuracy of measurement of the electric power in electrical networks of a prinalichiya of currents of the direct and inverse sequence in case of the asymmetrical three-phase systems. Raschitanny corrective coefficients allow to determine the real volume of the consumed electric power in case of the functional refusal of measuring complexes for various types of systems of the accounting of the electric power.*

**Keywords:** *electric power, system of power supply, ways of measurement, system of the accounting of the electric power*