
[1]:

- ()

$$S_G \stackrel{\text{def}}{=} |\dot{S}_a + \dot{S}_b + \dot{S}_c| ; \quad (1)$$

-

$$S_A \stackrel{\text{def}}{=} |\dot{S}_a| + |\dot{S}_b| + |\dot{S}_c| ; \quad (2)$$

- *Buchholz's*

$$S_B \stackrel{\text{def}}{=} |\mathbf{I}| |\mathbf{U}| = \sqrt{U_a^2 + U_b^2 + U_c^2} \sqrt{I_a^2 + I_b^2 + I_c^2} , \quad (3)$$

$$\dot{S}_k = \dot{U}_k I_k^* = P_k + jQ_k \quad k \in \{a, b, c\} ;$$

$$|\mathbf{I}| = \sqrt{I_a^2 + I_b^2 + I_c^2} , \quad |\mathbf{U}| = \sqrt{U_a^2 + U_b^2 + U_c^2} \quad (4)$$

-

(. .) 3-

.

-

$$\mathbf{U} = \begin{bmatrix} \dot{U}_a \\ \dot{U}_b \\ \dot{U}_c \end{bmatrix} = \begin{bmatrix} U_a e^{j\mathcal{E}_a} \\ U_b e^{j\mathcal{E}_b} \\ U_c e^{j\mathcal{E}_c} \end{bmatrix}, \quad \mathbf{I} = \begin{bmatrix} \dot{I}_a \\ \dot{I}_b \\ \dot{I}_c \end{bmatrix} = \begin{bmatrix} I_a e^{j\mathcal{I}_a} \\ I_b e^{j\mathcal{I}_b} \\ I_c e^{j\mathcal{I}_c} \end{bmatrix} \quad (5)$$

(1) – (3)

$$S_G \leq S_A \leq S_B . \quad (6)$$

(power factor) $\cos \phi_X = P/S_X$ ($X \in \{A, B, G\}$)

$$\cos \phi_G \geq \cos \phi_A \geq \cos \phi_B \quad (7)$$

()

([2]).

()

[2]

$S_A \geq S_B$,

[3].

(1)–(3) (3)

(7)

(1) (3)

$$S_B^2 = S_G^2 + D_u^2 \quad (8)$$

$$S_G^2 = P^2 + Q^2 \quad D_u^2$$

(5)

$$\mathbf{U} \times \mathbf{I} = \begin{bmatrix} \dot{U}_b \dot{I}_c - \dot{U}_c \dot{I}_b \\ \dot{U}_c \dot{I}_a - \dot{U}_a \dot{I}_c \\ \dot{U}_a \dot{I}_b - \dot{U}_b \dot{I}_a \end{bmatrix} \quad (9)$$

$$\mathbf{D} = \mathbf{U} \times \mathbf{I}$$

$$|\mathbf{D}| = |\mathbf{U} \times \mathbf{I}| = D_u \quad (8)$$

$$S_G^2 = P^2 + Q^2,$$

Buchholz's

$$S_B^2 = P^2 + Q^2 + D_u^2,$$

U (5).

I

1. // 2009. 6. 22-27: 2009. 7. 15-21, <http://www.kudrinbi.ru> 2. // 1953. 2. 56-61. 3. " " " : (), 2006. promel2000.narod.ru/posobia/tm.doc. 4. // « » VI , EPQ-2008: C . : , 211-214.

621.311.25

_____ . ;

. ; . .

30

440

()

60

(30-40).

:

,

,