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The methods to evaluate the stability of IPS of Ukraine and local electricity systems are described. Stability analysis of local electric energy system with hybrid filter is carried out. Degrees of distortion that introduces the device into the network is determined. Stability margin of the system is assessed.

Key words: IPS of Ukraine, local electric energy systems, stability.

Smart Grid.

Smart Grid

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$dQ/dV > 0$ [1].

($dQ/dV = 0$),

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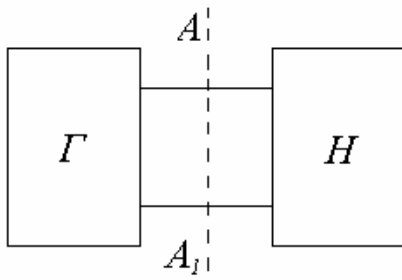
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$i(t), i(t) -$. 1. $\{ \} - \{ \},$
 $i(t) = i(t),$



$i_A(t)$ $i_p(t)$

$i(t) = i_A(t) + i_p(t).$

(2). , (), - 1 -

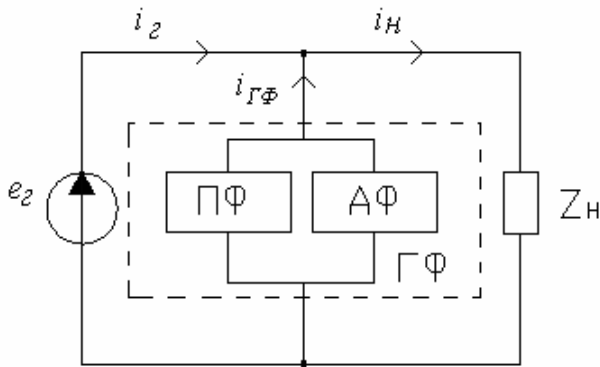
$i_p(t)$ $i(t), i(t) = -i_p(t).$:

$i^*(t) = i_A(t) + i_p(t) + i(t) = i_A(t) + i_p(t) - i_p(t) = i_A(t) ,$

$i^*(t) -$

, , - $i(t)$, , - $i_p(t)$, - $i_p(t)$: $i(t) = i_p(t) + i_p(t).$

$i_p(t)'$. $i_p(t)' \neq i(t)$. , -



. 2. -

$\Delta = \|i_p(t) - i_p(t)'\|$

$\{\sqcup i(t)_A\}$,

$\{\sqcup i(t)_\psi\}$,

« » $i_p(t)'' = i_p(t)' - i_p(t)$,

1. , -

2. .

$$u(t) = \sum_{k=1}^{N_r} U_{M(K)} \sin(k t + \frac{u}{K});$$

$$i(t) = \sum_{k=1}^{N_r} I_{M(K)} \sin(k t + \frac{i}{K}).$$

3. ,

4. ,

5. « » « »

6. ,

7. .

8. .

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2. 34.20.575-2002 // , 2007.- . 18.- . 3-12.

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3. / . . „ . . , . . // .

4. . . -2011.- . 30-37.

5. // . . / . . , . . ,

« » - '10».- 2010.

5. / . . // . - 2010.-

3.- . 59-67.

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