

Задача N3

$$S_1 = 40 \text{ МВА}, S = S_1$$

$$U_{K1} = U_{K2} = 11\%$$

$$S_2 = 80 \text{ МВА}$$

$$\Delta K = 7\%$$

$$S_{\text{гп}} = ?$$

$$S_{\text{ном1,2}} = ?$$

$$S_{\text{гп}} = \frac{\Delta K}{S_1 U_{K1} \left( \frac{\Delta K}{100} + 1 \right)^2 + U_{K2} \frac{S_1}{S_2}} \cdot \frac{7}{11 \left( \frac{7}{100} + 1 \right)^2 + 1}$$

$$= \frac{1}{11 \left( \frac{40}{80} \right)^2 + 1} \cdot 0,387$$

$$S_{H1} = S_1 \cdot \frac{1}{1 + \frac{U_{K1}}{U_{K2}} \cdot \frac{S_2}{S_1}} = 40 \cdot \frac{1}{1 + \frac{11}{11} \cdot \frac{80}{40}} = 13,3 \text{ МВА}$$

$$S_{\text{ном1}} = S_{H1} + S_{\text{гп}} = 13,3 + 15,48 = 28,78 \text{ МВА}$$

$$S_{H2} = S - S_{H1} = 40 - 13,3 = 26,7 \text{ МВА}$$

$$S_{\text{ном2}} = S_{H2} + S_{\text{гп}} = 26,7 + 15,48 = 42,18 \text{ МВА}$$