

Selection of initial approximations in the calculation of the limiting modes of electric power systems.

Sorokin E. V., Chudnyj V. S., Shipitsin M. S.

The article discusses the features of calculating the limiting modes of operation of electric power systems (EPS) by the criterion of static aperiodic stability using generalized equations of limiting modes (GEL). A comparative analysis of the methods for selecting initial approximations in determining the maximum modes of the EPS has been performed. Using the example of calculations for the EPS test scheme, the dependence of the rate of convergence of the GEL on the initial approximations of the eigenvector and the number of weighting steps to the limit mode is shown.

Key words: electric power system, limiting steady state, limiting mode equations, Jacobi matrix.