

*Ambrosovskaya T. D., Andranovich B., Kurilkin A. I., Sorokin E. V.*

**Research of the steady and transitional electric modes of the isolated power supply systems.**

The article describes the feature of calculation of steady and transient modes of power systems taking into account the change in frequency. Contains an algorithm for calculating the steady modes, with the possible change of frequency, based on the introduction of frequency as the independent variable and the solutions of systems of nonlinear algebraic equations.

*Key words: power system, plant operational state, frequency, calculation.*

*Ambrosovskaya Tatyana Dmytrivna, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.*

E-mail: ambrosovskaya @ntcees.ru

*Andranovich Bogdan, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.*

E-mail: andranovich\_b@ntcees.ru

*Kurilkin Alexey Igorevich, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.*

E-mail: kurilkin@ntcees.ru

*Sorokin Evgeny Vladimirovich, PhD. tech., Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.*

E-mail: sorokin@ntcees.ru