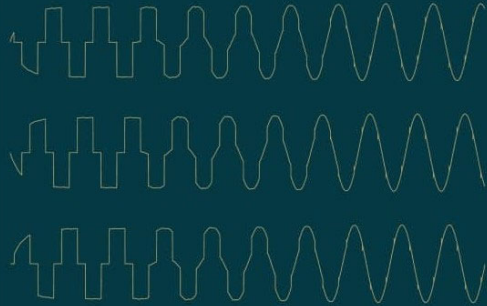


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**ТЕОРІЯ АКТИВНОЇ ФІЛЬТРАЦІЇ
БАГАТОФАЗНИХ СИСТЕМ
ЕЛЕКТРОЖИВЛЕННЯ,
СПРЯМОВАНА НА МІНІМІЗАЦІЮ
ПОТУЖНОСТІ ВТРАТ В ЛІНІЇ
ПЕРЕДАЧІ**



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The monograph presents the theory of active filtration of power supply systems and the construction of technical means for improving the quality of electric energy. The theory of instantaneous and integral power of multiphase power systems gained further development by substantiating new formulas for determining the active current, apparent power, and gain coefficient by power losses, considering the dependence on the resistance ratio of the transmission line. The potential possibility of increasing the efficiency of the power system by increasing the load factor due to the use of a shunt active filter is considered. The methods of calculating reactive

compensators in the hybrid active filter for asymmetric sinusoid modes of operation of three-phase three-wire and four-wire systems are proposed. Examples of calculating the power coefficients of the most used three-phase loads using the proposed apparent power formula, which allows evaluating the power of losses and the efficiency of the power supply system in the early stages of its design.

For specialists working in the field of electric energy and power electronics, postgraduate students and students of relevant specialties.