

Analysis of probabilistic characteristics of irregular fluctuations in power consumption in territorial power systems.

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The article is dedicated to the study of irregular fluctuations of power consumption in territorial energy systems that are part of the Unified Energy System of Russia. The relevance of the study is due to the need of analyzing the operational and balance situation in energy districts comprising two or more territorial energy systems. A pairwise correlation of irregular fluctuations in power consumption in power systems was calculated based on a representative sample of statistical data for the period 2020–2024. Practical conclusions are drawn about the expediency of considering extreme temperature conditions simultaneously in several power systems when analyzing their operational and balance situations.

Key words: irregular fluctuations in power consumption, power consumption graphs, temperature conditions, correlation matrix.