Probabilistic power flow with microgrid

Considering the randomness and correlation of source and load in a microgrid, this paper establishes a probabilistic power flow model for micro-grid systems.

One of the reliable tools for steady-state analysis of microgrids is probabilistic power flow (PPF). In this chapter, the concept of PPF is introduced via a literature review. Then, the detailed ...

In this situation, probabilistic power flow (PPF) calculation has been introduced to mitigate the low accuracy of traditional deterministic power flow calculation in describing the operation status ...

These types of energy sources are inherently uncertain and bring many unknowns to the power system. One of the most important aspects to be analyzed is the distribution of the ...

This work proposes a Gauss quadrature-based probabilistic power flow method for an islanded microgrid with wind, solar, and load uncertainties, including electric vehicles.

In this paper, a probabilistic power flow (PPF) analysis method is proposed to evaluate the influence of uncertainties on the power flow of MGs. First, the MG PPF model is established ...

One of the most important aspects to be analyzed is the distribution of the probabilistic optimal power flow (POPF).

The main aim of this paper is to propose a linear power flow algorithm based on the Gauss Zbus method for islanded microgrids. This algorithm was used to evaluate voltages and angular frequency in a ...

In order to compare the effectiveness of the proposed methods, a 30-bus IEEE standard test system is used in the MATLAB software, showing that 2PEM is more suitable than the others. The results ...

per establishes a probabilistic power flow model for micro-grid systems. The probabilistic power flow solving

algorithm we propose is based on "1-minimization, which effectively improves the computing ...

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