

Identification of power system parameters based on wide area measurement data.

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The paper presents an identification algorithm of power systems mathematical models parameters according to wide area measurement system (WAMS). Proposed algorithm is based on empirical mode decomposition method (EMD) and Fourier transform. WAMS data from generators of Kolskaya power plant are used for this purpose and analyzed in the study. As the result, the inertia coefficient and unknown coefficients of automatic excitation control system of Kolskaya power plant are determined using proposed technique in the equivalent grid of Kola-Karelian intertie and in the simple structure model “generator – line – infinite bus”. Conclusions about the effectiveness of using proposed technic in models of different configuration are provided.

Key words: wide area measurement system, empirical mode decomposition, Fourier transform, genetic algorithm.