STOCHASTIC MODELS OF GENERATING UNITS

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A general approach to modeling of thermal and hydro generating units for optimal operation of power plants and systems is presented. Usually the characteristics of generating units are expressed as deterministic functions. This paper describes the models of input-output characteristics on the deterministic, probabilistic, uncertainty and fuzzy level. On the probabilistic level the input-output curves may be described by the functions of probabilistic characteristics of input. On the uncertainty level it is necessary to determine the intervals of curves or the intervals of probabilistic characteristics of curves. On the fuzzy level the input-output curves are determined by membership functions as the fuzzy zones of curves. The models presented in the paper can be used for the determination of unit's characteristics on the probabilistic, uncertainty and fuzzy form.

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