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Defining the resultant damping component of generating unit based on electromechanical transient measurements.

Method for defining the damping component of generating unit, that characterized it ability to damp rotor swings, is developed. The method is based on measurement approximation by means of model based on synchronous machine swing equation. The input is active power and rotor angle measurements during electromechanical transients. The method was tested using data obtained from mathematical and physical simulations and collected from field measurements in the power system. The results may be applied for simplified dynamic models of generating unit developing.

Key words: damping component of generating unit, rotor swing equation, synchronous machine parameters identification, electromechanical transients, simplified synchronous machine dynamic model.

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