

What is the IEEE standard for synchronous generator modeling?

IEEE Standard 421.5 IEEE Standard 1110-2002,11 (2003) IEEE guide for synchronous generator modeling practices and applications in power system stability analyses. IEEE Std 1110-2002,11 Kovács PK (1984) Transient phenomena in electrical machines. Akadémiai Kiadó, Budapest Krause PC (1986) Analysis of electric machinery.

Which model is used for synchronous generators with a salient pole rotor?

The GENSAL model is used for synchronous generators with a salient pole rotor. The rotor damping circuits are represented by individual equivalent circuits in the d and q axes. As in the GENROU model, the transformation voltages of the stator are neglected. Saturation corrections are taken into account only in the longitudinal axis d.

What is a gensal XT model of a synchronous generator?

The model GENSAL--XT model of a synchronous generator with a salient pole rotor. At the end of Sect. 2.1, the mechanical equations of the rotor and the electromagnetic torque of the generator are given. RL models are derived under the following assumptions [1,10,11,27,29,49]:

What are lumped parameter circuit models for synchronous generators?

This model was created by appropriate combination of models of: synchronous generator, excitation system, turbine and PSS. Lumped parameter circuit models for synchronous generators, representing electromagnetic and mechanical phenomena with different accuracy, are commonly used in simulation investigations of power systems.

What are the different types of generator models?

The following generator models are presented in detail: linear RL models of type (3,3), (2,2), (2,1) and (1,0), nonlinear RL model of type (3,3), reduced RL models, GENROU--XT model of a synchronous generator with a cylindrical rotor, GENSAL--XT model of a synchronous generator with a salient pole rotor.

What is the general model of a generating unit?

At the end of this chapter, the general model of a generating unit developed by the authors is described. This model was created by appropriate combination of models of: synchronous generator, excitation system, turbine and PSS.

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To improve the aerodynamic performance of tiltrotor aircraft, the flow characteristics of the V-22 airfoil without and with one, two parallel rows of vortex generators (VGs) were investigated ...

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mountainous areas, a single-row small grain precision seeder was developed. Static seeding test and seeding test were carried out on the seeder. In this paper, the key parts such as socket ...

Firstly, the simulation model of the single piezoelectric wafer and single-row-hole substrate is established in Figure 1. All parts of the single-substrate frequency-variable piezoelectric wafer ...

The dynamic stall control of the wind turbine airfoil via single-row and double-row vortex generators was simulated in Ref. 37. The reported results indicated that the second ...

Abstract: Due to the complexity of detailed models, the single-generator equivalent model (SEM) of a wind farm is commonly used to facilitate the stability analysis. However, the adequacy of ...

Currently working on (1) designing an RL algorithm that jointly designs the tracking controller and the trajectory generator via actor-critic learning, and (2) analyzing the performance ...

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An adaptive control strategy based on the radial basis function NN that enjoys a simple algorithm, strong ability of learning, and fast learning rate is used to adjust virtual inertia adaptively and ...

Abstract: Linearized models of single machine infinite bus systems have been widely used for evaluation of small-disturbance rotor angle stability and design of excitation system of ...

