

## عنوان مقاله:

Study and Simulation of No-Load Synchronous Generator Equipped with Static Excitation System

## محل انتشار:

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## خلاصه مقاله:

Synchronous machine is a two-excitation machine and is widely used in energy conversion systems such as wind energy conversion system and hydropower plants. Providing and regulating the direct current of the excitation coil of the synchronous machine is the main task of the excitation system. The excitation system in the synchronous machine must have a high voltage limit. For high reliability, each generator has its own exciter. The excitation system by controlling the excitation voltage can control the voltage and reactive transmission power and strengthen the stability of the system and cause the proper operation of a power system. In the dynamic analysis of the power system, to check the stability of the synchronous generator, it is enough to consider the excitation system and its primary drive controls can be ignored. In this article, the aim is to study and simulate the behavior of a no-load synchronous generator equipped with a static excitation system. Changes in the output voltage of the excitation system due to changes in the parameters of the excitation gain reduction (TGR) and the excitation system stabilizer (ESS) have been investigated. The simulation results show the effect of TGR and ESS on damping the oscillatory response and reducing the settling time of the response.

## کلمات کلیدی:

Excitation system stabilizer, energy conversion, Transient gain reduction, synchronous generator

## لینک ثابت مقاله در پایگاه سیویلیکا:

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