

Analysis and processing of high generator wind temperature

This paper focuses on the thermal analysis of a 2 MW wind turbine generator. The goal is to estimate the stator winding temperature with a model as straightforward as possible.

Abstract: High-voltage fault-tolerant wind generators with high-temperature superconducting (HTS) bulks are being considered for offshore wind farms since they can simplify connections of wind farms and ...

Generator stator winding temperature is a significant representation of the health status of wind turbines. Accurate prediction of winding overheating can help us timely formulate operation and maintenance ...

The purpose of this project is to develop thermal models for wind turbine generators, based on which a non-intrusive condition monitoring scheme, using thermal imaging, will be proposed.

The heat transfer characteristics of the high-temperature superconducting synchronous generator were investigated using a lumped parameter network, and the temperatures inside the ...

In this paper, a cooling system combining external water cooling and internal air cooling is designed for a 12 MW permanent magnet wind generator, and the temperature characteristics are ...

A feasible design of a high-temperature superconducting wind turbine generator (HTSWTG) is based on the synchronous generator with a copper stator and a superconducting rotor.

Vibration analysis, oil monitoring and analysis, acoustic emission, ultrasonic testing techniques, strain measurement, radiographic inspection, thermography, etc. are all effective means ...

By changing the air gap length, permanent magnet thickness, and winding conductivity, the relationship between the loss, temperature rise, and exergy efficiency can be obtained.

In this paper, a new condition monitoring method based on the Nonlinear State Estimate Technique for a wind turbine generator is proposed. The technique is used to construct the normal behavior model of ...



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