

METHOD AND SYSTEM FOR EVALUATING THE TECHNICAL CONDITION OF GAS TURBINE ASSEMBLIES

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ABSTRACT

The invention relates to a system for evaluating the technical condition of gas turbine assemblies on the basis of temperature fields, and is directed toward more accurately determining a temperature deviation from an initial value. In a method for remotely monitoring the technical condition of turbine assemblies, the temperature of a gas stream passing from the combustion chambers through the gas ducts and the blade assembly is measured in a turbine, at the outlet thereof, at different time points by means of thermocouples; temperature indices of the gas turbine are obtained for each time point, and the temperature indices obtained from each thermocouple are converted into vector quantities, wherein the temperature of the thermocouple is the vector magnitude, and the angular position of the thermocouple in the plane of the exhaust is the vector direction; on the basis of the vector quantities obtained, a resultant temperature vector value is generated, the head of said resultant vector being the epicentre of a heat field; a coordinate grid is constructed and the head of the resultant vector is plotted thereon; the heads of resultant vectors calculated on the basis of incoming data about new temperature indices at the turbine outlet in different time intervals are added each time to the coordinate grid; the extent of deviation of the vector heads from an initial value is determined.

(No Suitable Figure)