Abstract

This paper examines three methods of gas turbine parametric diagnosing. The functioning methods are simulated in the identical conditions of gradually developing faults and random measurement errors. The objectives are to tune the methods, to compare them, and to choose the best one on basis of probabilistic criteria of class correct and incorrect recognition. So, main focus of the paper is a recognition trustworthiness problem. A previous research work in this direction is united with new results and they all together are presented in more systematic form as a common approach. Besides the method comparison and selection, other ways to enhance the trustworthiness are described and the perspectives to realize the methods in real condition monitoring systems are analyzed.

Keywords

Gas turbine fault classification, thermodynamic model, diagnosis methods, fault recognition trustworthiness