

The work is devoted to problem solution of the gas-turbine engines (GTE) blades condition monitoring and diagnosis of the crack-like damages at the steady-state and non-steady-state modes of GTE. It is based on the development of theoretical basis of the vibroacoustical diagnosis methods, the application of the modern signal processing methods and new information technique for decision making. The application of the following signal processing methods: Wavelettransformation and dimensionless characteristics of the vibroacoustical signals is proved. The neuron networks are used for decision making about blades condition by the above mentioned features application. Classification of turbine blade condition was carried out using a two-layer Probability Neural Network (PNN).

Keywords: blade, crack-like damages, vibroacoustical condition monitoring, neuron networks

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