

Abstract

The master's dissertation on the topic "Computer-integrated system of control of boundary tension-deformation states of metallurgical equipment" consists of 3 chapters, conclusions, a list of literature and applications. The explanatory note consists of 98 pages, 38 figures, 23 tables, a list of references from 13 titles and 3 application.

This topic is relevant, because the use of computer-integrated systems for monitoring the tension-strain states on the metallurgical equipment gives advantages in the form of improving the quality of blanks, increasing the productivity of production and reducing the number of equipment malfunctions. Constantly growing requirements for the measurement of tension-deformation set a number of tasks to ensure the accuracy and reliability of the operation of the metallurgical equipment in difficult operating conditions, so the study of measured voltage transducers, which are the basis of computer-integrated control systems, is an important issue for obtaining accurate results.

The purpose of the master's thesis research is to analyze the existing methods of measuring the force used in measuring converters of force and to develop a computer-integrated SCADA system based on this analysis. Development of structural and electrical scheme. Creation of a mathematical model of the measuring transducer of force. Investigation of static and dynamic characteristics on the metrological characteristics of the strain gauge transducer using modern software.

The object of the study is the static and dynamic characteristics of the measuring force transducer.

The subject of the study is a measuring transducer of force.

The scientific novelty of the results obtained is to systematize the methods of measuring power. Creation of computer-integrated SCADA system for optimization of operating modes of metallurgical states on the basis of the conducted analysis of static and dynamic characteristics of the measuring power converter.

Keywords: measuring power transducer, computer-integrated system, tension-deformation states, strain gauge, bridge measuring circuit, elastic element, static characteristic, dynamic characteristic.