Abstract

The report consists of an introduction, 5 chapters, conclusions and recommendations, totaling 135 pages, 51 illustrations, 7 table 100 literary sources.

The study object is automatic process control of BOF smelting.

The study subject is mathematical models and control algorithms of converter process under incomplete information.

The purpose of the work is improving the efficiency of converter production by creating models and process controls, covering all periods of melting, based on the theoretical study and develop methods for accurate and reliable information on the process and implementation of automatic process control of BOF smelting mentioned in converter smelting.

Study methods are mathematical methods for constructing models (deterministic, probabilistic and heuristic) methods of fuzzy logic, choice of structure mathematical model and adjust its parameters for continuous operation in the process, methods of synthesis of control systems.

The results are developed models and control algorithms BOF process, made the choice of algorithm and measuring process parameters in conditions of incomplete information, audited by the development of industrial data.

The recommendations of using work to check the adequacy of the developed control systems, models and algorithms while the BOF process management, under different converter shops, to industrial testing algorithms on one of the industry. Further research conduct in direction of algorithmic tasks and system implementation to standard controllers.

Area of application is metallurgical production.

Keywords: BOF, MANAGEMENT, MODELS, ALGORITHMS, CLOSED SYSTEM