

ABSTRACT

The volume of the master's dissertation is 113 pages. The work includes 75 images, 27 tables, a list of literature (19 titles) and applications.

The task of dynamic weighing is in many industries: metallurgy, heat energy, forestry, food. Most often it is used in weighing of cars and motor transport. Dynamic weighing is present even in the postal area, where weighing of sheets and parcels is an important part of this area.

The main factors limiting the use of this method of measurement is the lack of accuracy, versatility of use, the required speed. Promising areas for the development of dynamic weights are finding filtration methods to reduce the impact of dynamic destabilizing factors.

The purpose of the study is to find the optimal method for filtering a signal from dynamic impediments in mass measurement systems in motion.

The object of the study is the measurement of mass on moving objects. The subject of the study is the analysis of dynamic obstacles and the selection of methods for their filtration.

The research methods are based on the use of digital processing of discrete signals, the simulation of methods of struggle with the help of the MatLab software environment, on the experimental setting in real conditions with the aim of verifying certain theoretical positions.

Scientific novelty and expediency consists in the systematization and evaluation of known methods of suppressing dynamic impediments. An analysis and systematization of the main destabilizing factors during dynamic weighing was conducted. The use of a number of effective methods for filtering dynamic impediments has been proposed and substantiated.

Key words: dynamic destabilizing factors, dynamic impediments, filtration methods, digital signal processing, mass measurement, weighing in motion, dynamic weighing, filtration.