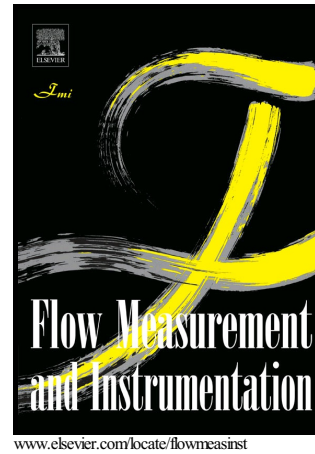


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APPLICATION OF THE MULTICHANNELING
PRINCIPLE FOR SOLUTION OF THE
PROBLEMS RELATED TO INCREASE OF
SUBSTANCE FLOWMETER ACCURACY

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APPLICATION OF THE MULTICHANNELING PRINCIPLE FOR SOLUTION OF THE PROBLEMS RELATED TO INCREASE OF SUBSTANCE FLOWMETER ACCURACY

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Abstract

This article outlines application of the multichanneling principle to reduce uncertainty in results of fluid and gas flow measurement. It describes the measuring system structure and flow calculation algorithm that allows reducing the uncertainty of flow measurement in conventional flowmeters and achieving invariance of a relatively wider number of medium and system parameters affecting accuracy of flowrate measurement and quantity of substances.

Keywords: accuracy; flowmeter; measuring system; multichanneling principle.

1. Introduction

Technologies that ensure energy efficiency of water and fuel-and-energy resources play an important role in the development of the present-day industry. Flowmeter technologies are one of the key tools for achievement of such efficiency. Saving of resources and money at organization of fiscal measurement of a substance in question depends on their metrological parameters, particularly, accuracy of measurements.

It should be taken into account that not all of the flow measurement methods can ensure the measurement of fluids and gases in large and small diameter pipes at organization of fuel and energy resources measurement using flowmeter systems. It becomes crucial at measurement of substance flows passing through large diameters ($D \geq 700$ mm, particularly $D > 1000$ mm). In an attempt to organize measurement of liquids or gases in large-diameter pipes, developers and operating personnel

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