

Conclusion

A new approach to the solution of interdisciplinary problems of pipeline diagnostics and reliability is demonstrated. The problem under study is considered holistically and represented as a chain of problems, each of which may, in general, be a subject of a separate study by some fundamental, applied or engineering science. In this format the desired solution is obtained by solving this sequence of problems in such a way that the solution of the first problem is an “entry” (input data) for the second problem, etc., until the “output” of the last problem in the sequence produces the desired result. Despite transparent formulation of this problem, its implementation is not trivial and requires significant efforts, since the solution of each preceding problem has to meet the metrics for the next one, and be represented in a corresponding form, which in itself is quite difficult.

Given this formulation, the solution of the stated interdisciplinary problem used all practically applicable achievements of modern science, which gives hope that the obtained results would most comprehensively and correctly reflect the essence of the problem under study.

The authors hope that, in general, the book is a good illustration of the fact that, quoting J.W von Goethe: “*All theory, dear friend, is dry, but the golden tree of life springs ever green*”, or in other words, there is nothing more practical than a good theory.

We hope that the book will draw the attention of everyone who is interested in studying and providing the integrity and safety of pipeline systems for different purposes, and is able to use the achievements of fundamental and applied research in their everyday operations.

The breakthrough results presented in the book may, in our opinion, serve as a basis for the development of innovative pipeline transportation technologies of the twenty-first century, both in the area of diagnostics and monitoring, and in the area of ensuring integrity, reliability and safety of pipeline systems and similar critical infrastructures.