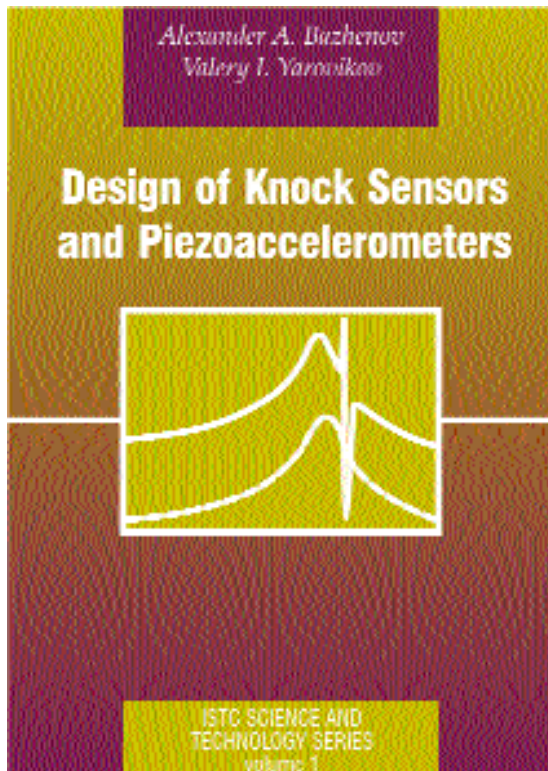




*From the International Science and Technology Center in Moscow, the first volume in a series of monographs written by leading scientists in the former Soviet Union.*



*Front Cover of Design of Knock Sensors*

- 208 pp., hard cover
- 81 figures
- 8 tables
- more than 200 equations

## Preface

Chapter 1: Design and Operational Principles of Car Engine Knock Control Sensors

Chapter 2: Calculation and Design of Piezoelectric Knock Sensors

Chapter 3: Design and Technological Features of Knock Sensors

Chapter 4: Operating Features of Knock Sensors

## References

Appendix A: Piezoelectric materials

Appendix B: Basic formulae and relationships

## Design of Knock Sensors and Piezoaccelerometers

Alexander A. Bazhenov and Valery I. Yarovikov, Senior scientists in the All-Russian Institute of Experimental Physics, Sarov, Russian Federation.

*"Piezoelectric accelerometers constitute the majority of state-of-the-art instruments measuring acceleration (vibration and shock) of different equipment and designs in a frequency band up to 20 - 30 kHz. In metrological and service characteristics, instrument piezoelectric accelerometers are greatly superior to all other transducer types" (authors' preface).*

**Now available in English to engineers, scholars and researchers interested in the design, application, and operation of piezoelectric knock sensors and other varied-purpose electro-mechanical transducers.**

Bazhenov and Yarovikov have filled an important gap by presenting in a single monograph the theory and application of knock sensor design. While the book focuses on knock sensor design for internal combustion engine control systems, the calculation techniques are also suitable for application to other piezoelectric transducers regardless of the relation between the size of a received wave and the dimensions of the sensing elements. The book consists of four chapters, references, and two appendices.

ISBN 0-9710464-0-9

Pub Date: January 2002

List Price: \$115.00

Available from Baker and Taylor or direct from:  
Futurepast: Inc. [www.futurepast.com](http://www.futurepast.com)  
Call toll-free 1-888-247-2259 (U.S. and Canada)  
or +1-703-894-0062

## FUTUREPAST ANNOUNCES VOLUME 1 OF THE ISTC SCIENCE AND TECHNOLOGY SERIES (ISSN-1536-4593)

The Moscow-based International Science and Technology Center (ISTC) has chosen Futurepast to publish a series of books written by scientists from Russia and other countries of the former Soviet Union. The ISTC was founded in 1992 to support scientists whose work was formerly directed to military purposes.

The ISTC is an intergovernmental organization dedicated to the nonproliferation of weapons technology of mass destruction. The Center coordinates the efforts of numerous governments, international organizations, and private sector industries

to provide scientists from Commonwealth of Independent States (CIS) countries with opportunities to redirect their talents to peaceful science.

The ISTC was founded by the initial agreement of four parties: the United States of America, the European Union, Japan, and the Russian Federation. Subsequently Norway and the Republic of Korea have joined as funding parties. Initially limited to Russia, the Center now also funds work conducted by scientists in Armenia, Belarus, Georgia, and Kazakhstan.



### Volumes in the ISTC Science and Technology Series:

**Volume 1: Design of Knock Sensors and Piezoaccelerometers**, by Alexander A. Bazhenov and Valery I. Yarovikov, ISBN 0-9710464-0-9, January 2002

**Volume 2: Safety Assurance in Decommissioning Nuclear Reactors at Civil and Military Installations**, by I. A. Yengovatov et alia, forthcoming in 2002

**Volume 3: High Energy Phenomena in Electric Discharges in Dense Gases: Theory, Experiment, Natural Phenomena**, by L. P. Babich, forthcoming in 2002

**Volume 4: Deep-Well Injection of Liquid Radioactive Waste from Russian Atomic Industry Enterprises**, by A. I. Rybalchenko et alia, forthcoming in 2002

Other volumes to follow, approximately four titles per year. Standing orders accepted.

For information about this series and to order, please contact Baker and Taylor or:

### Futurepast<sup>®</sup> Inc.

2111 Wilson Boulevard, Suite 700  
Arlington, VA 22201 USA  
Toll-free 1-888-247-2259 (U.S. and Canada)  
International +1-703-894-0062  
Fax +1-703-358-9566

[www.futurepast.com](http://www.futurepast.com)  
SAN: 254-0851