

Measurement in Technology

A textbook from the multimedia courseware METROMEDIA-ONLINE

Contributions by individual authors, compiled by
EVA KUREKOVÁ – PETER GABKO – MARTIN HALAJ

Volume I



This publication was developed under the support of the European Commission in the framework of the Leonardo da Vinci program.



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The publication deals with a wide variety of aspects related to metrology, measurement theory and practice. It is focused mainly on measurement in manufacturing machinery and also, in part, in the field of electrical engineering. It offers the reader an overview of the basic principles and phenomena used in measurement, as well as other useful information concerning the design of measuring instruments, their application, and processing of the measured data.

The publication is structured in 31 modules, which were prepared by leading experts coming from seven European Union countries. Due to the large extent of the teaching texts, the textbook is published in two volumes.

Volume I

- * History of measurement and metrology
- * Quantities and units
- * Measuring principles
- * Measuring instruments
- * Physical principles of sensors
- * Design and manufacturing of measuring instruments
- * Imaging and computer vision
- * Measurement of temperature
- * Measurement of pressure
- * Measurement of flow rate, delivered amount of liquid and flow velocity
- * Measurement of level

Volume II

- * Measurement of length, position, dimension
- * Measurement of surface roughness, waviness and the primary profile
- * Measurement of geometrical properties
- * Measurement of angle
- * Measurement of frequency of rotation
- * Measurement of humidity
- * Measurement of force
- * Measurement of mass
- * Measurement of torque
- * Measurement of power and energy
- * Measurement of voltage
- * Measurement of current
- * Measurement of resistance
- * Design of experiment (measurement)
- * Measurement models
- * Uncertainty of measurement
- * Measurement management systems
- * International organizations
- * Metrological system(s)
- * Accreditation and certification

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The multimedia training package METROMEDIA-ONLINE is available in four languages – English, German, French and Slovak - at the Internet web site

www.metromedia-online.com

or alternatively on DVD. Further information is available at the above-mentioned web site or at the e-mail address

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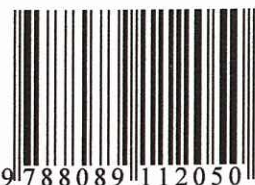
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