

JEMNÁ MECHANIKA A OPTIKA

VĚDECKO-TECHNICKÝ ČASOPIS
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Two basic theoretical models of the electronic magnetoresistance of an electrically conductive mesoscopic thin layer (J. Pospíšil, F. Pluháček)	204
The influence of a homogeneous magnetostatic field to the transfer of electrons in an homogeneous electrically conductive metallic or semiconductor mesoscopic thin layer is discussed in this article. For such a purpose, the two adequate basic theoretical conduction models, relating to its electrical resistivity and mobility, concentration and density of energetic quantum states of presented electrons, are utilized. They contain the classical Drude model, applicable to a weak longitudinal and transversal magnetoresistance, and the quantum Shubnikov – de Haas model, exploitable to a strong longitudinal magnetoresistance. The formulae presented declare some specific magnetoresistance properties of mesoscopic electrically conductive thin layers with actual practical importance for next miniaturization, development and investigation of new integrated electronical, opto-electronical and electro-optical systems.	
Operational employment of Optosurf sensors for reliability surface performance (R. Brodmann, B. Brodmann, P. Kracík, K. Tláček, D. Smutný)	209
The method of diffused light is complements the traditional contact measuring methods and supports a surface characterization using simple parameters. The high measurement rate allows 100% control and verification performance reliability of all parts. In this way it is possible to characterize considerably better for instance slide surfaces.	
Radiometers and photometers (P. Oupický).....	211
Recently I have accomplished an article dealing with photometers [12], more than 10 years developed and produced in the	

Optical development workshop of the Academy of Sciences of the Czech Republic. My oponent's argumentation against some terms provoked me to immerse more deeply into the terminology what finally gave rise to the fundamental article corrections. In course of time I found on web an article of prof. James M. Palker devoted to the photometry and radiometry which attracted my interest. Using his ideas I altered my terminology and renamed the photometry as radiometry (and later the radiometry was tentatively replaced by photonmetry, see this article conclusions) and I concluded that I was not alone being lost in this area and it will be useful for the Czech technical community to think hard about used terms and to try to unify the terminology step by step. The prof. J. M. Palmer's article involves a lot of other interesting ideas which can be very useful also for our experts in practical fields. Therefore I am attempting here to translate his basic thesis in the most understandable manner.

Ing. Igor BREZINA in his seventies (Red.).....	214
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Media with negative refractive index (M. Miler, H. Hiklová).....	215
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The article describes behavior of electromagnetic radiation passing through negative refractive index material. Such material doesn't exist in the nature and almost nobody interested in it's theory for long time. Interest in this new medium has been increasing since the beginning of this century when several artificial samples were made and described their their extraordinary features.

Engineering measurement technique (Č. Nenáhlo).....	220
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This article describes some state-of-the-art tendencies in the engineering measurement technique related especially to the production progress and quality control. These tendencies are documented by the examples of modern measurement equipments.

Measurement of an optical element group dispersion using a spectral tandem white light interferometry (R. Chlebus, P. Hlubina, D. Ciprian).....	223
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In this article we present theoretically and experimentally a new measurement method of an optical element group dispersion using a spectral tandem white light interferometry, when two interferometers are used in tandem. Here we employ Michelson and Mach-Zehnder interferometers with an optical element of known thickness placed in one of their arms. From the recorded spectral interference signals there is deduced the balanced wavelength, for which the total group optical path difference between the beams is vanishing. From the experimental data the group dispersion of the glass sample was determined in accordance with the measurement results obtained using the Michelson interferometer only.