

# JEMNÁ MECHANIKA A OPTIKA

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ROČNÍK 54 2/2009

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An article gives an overview about education and research activities performed at Division of Fine Mechanics and Optics of Faculty of Mechanical Engineering of Czech Technical University in Prague.

## **Application of Shack-Hartmann sensor for picture quality measurement of optical systems** (M. Vraštil)..... 38

## **Antireflection coatings for colour-separating prism assemblies** (P. Obdržálek, J. Zdráhal) ..... 40

Digital projectors use prism assemblies to separate the chromatic R,G,B components of source white light. Transmission of the colour-separating prisms must be as high as possible and therefore it is necessary to minimize their energy losses. From the point of view the energy losses there are three critical parts: glass, dichroic filters and antireflection coatings. The optimal antireflection coatings must have not only small values of reflection but also small values of total losses of energy in layers.

## **SPIE/CS – optical society informs** (M. Baďurová) ..... 42

## **One year experimental operation of photovoltaic system with fixed frame in Czech University of Life Sciences in Prague**

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## **The usage of photovoltaic systems to structure of automation**

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The photovoltaic system can be used as a one of part of automation. Photovoltaic system serves as a source of electric energy for programmable logical automat (PLC) and his peripheries. The solar regulator provides optimum charge process and accumulator's protections. The information passing about charge process and accumulator's state is based on right activity. The solar regulator working for maximum energy from the PV collectors, so that need not be directed from PLC. The current loop is suitable for communication. In the case of table of commands and information we can use this easy bus as a universal bus. The current loop is one of typical PLC's interfaces. Key words: Programmable logical automat, solar regulator, current loop.

## **Katadioptric systems** (A. Mikš)..... 50

The paper deals with theoretical analysis of the catadioptric optical systems for astronomical telescopes and photographic telephoto lens. The formulas for calculation of parameters for four types of catadioptric optical systems are derived. The achromatic meniscus and two lens afocal optical system are used as a compensators of the residual aberrations of mirror systems.

## **Hoya Vision Care Expands in Czech Republic**

(M. Činčura)..... 57

Hoya Corporation's Vision Care Division, a key player in the global market for ophthalmic lenses, acquired Dioptra CZ, one of the leading distributors for ophthalmic lenses in the Czech Republic. In early 2009, Hoya appointed Ms. Ivana Nechanická to serve as Managing Director of HOYA Lens CZ (former Dioptra CZ). In recent years, Hoya has carried out a great deal of research into perfecting our progressive lenses. Result of that is a headline-making addition to the Hoyalux iD family of advanced FreeForm progressives.

## **Czech participation in HANNOVER MESSE 2009**

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