• INSTITUTE OF NUCLEAR AND PHYSICAL ENGINEERING, FACULTY OF ELECTRICAL ENGINEERING AND INFORMATION TECHNOLOGY, SLOVAK UNIVERSITY OF TECHNOLOGY, BRATISLAVA • ALUMNI CLUB OF THE FACULTY OF ELECTRICAL ENGINEERING AND INFORMATION TECHNOLOGY, SLOVAK UNIVERSITY OF TECHNOLOGY, BRATISLAVA • INSTITUTE OF AUREL STODOLA, LIPTOVSKÝ MIKULÁŠ, FACULTY OF ELECTRICAL ENGINEERING, UNIVERSITY OF ŽILINA • INSTITUTE OF PHYSICS, SLOVAK ACADEMY OF SCIENCES, BRATISLAVA • SLOVAK PHYSICAL SOCIETY, BRATISLAVA



24th International Conference on

APPLIED PHYSICS OF CONDENSED MATTER (APCOM 2018)

with accompanying events

International Workshop Current Successes in the Photoemission Scientific Conference Nuclear Engineering

June 20 – 22, 2018

Hotel Patria, Štrbské Pleso, Slovak Republic

All full-text contributions in Conference Proceedings published through American Institute of Physics were reviewed by two members of the International Program Committee

Partners:





EUROPEAN UNION European Structural and Investment Funds Operational Programme Research, Development and Education





NURECO o.z.

EDITORS OF BOOK OF ABSTRACTS J. Vajda, I. Jamnický ISBN 978-80-227-4799-8



24th International Conference on

APPLIED PHYSICS OF CONDENSED MATTER (APCOM 2018)

with accompanying events

International Workshop Current Successes in the Photoemission (CSPES) Scientific Conference Nuclear Engineering

June 20 – 22, 2018

Hotel Patria, Štrbské Pleso, Slovak Republic

INTERNATIONAL PROGRAM COMMITTEE

J. Sitek, FEEIT STU Bratislava, SK chairman P. Ballo, FEEIT STU Bratislava, SK J. Cirák, FEEIT STU Bratislava, SK M. Flaska, PSU Pennsylvania, USA L. Harmatha, FEEIT STU Bratislava, SK K. Hricovini, CPU Cergy-Pontoise, FR E. Hristoforou, NTU Athens, GR J. Kohout, CU Prague, CZ A. Lančok, IP AS Prague, CZ V. Lisý, FEEIT TU Košice, SK R. Makhloufi, Caen University, FR J. Minár, UWB Plzeň, CZ J. Müllerová, FEE Žilina University, SK W. Recheis, UAS Wiener Neustadt, AT D. Seyringer, FHV Dornbirn, AT O. Schneeweiss, IPM AS, Brno, CZ B. Sopko, CUT Prague, CZ P. Švec, IP SAS Bratislava, SK R. Szewczyk, WUT Warsaw, PL U. Topal, Tubitak-UME, TR

LOCAL ORGANIZING COMMITTEE

J. Vajda, FEEIT STU Bratislava, SK - chairman

I. Jamnický, FEE Žilina University, SK P. Novák, FEEIT STU Bratislava

CONFERENCE ADMINISTRATOR Patrik Novák Institute of Nuclear and Physical Engineering

Faculty of Electrical Engineering and Information Technology, STU Bratislava Ilkovičova 3 812 19 Bratislava Slovak Republic

Tel.: +421–2–602 91 714 Email: <u>apcom@elf.stuba.sk</u> Web: http://kf.elf.stuba.sk/~apcom/



is the 24th international conference in the series of events started in the year 1995 with the workshop "Solid State Physics and Radioactive Irradiation". Next three years the name of this workshop was "Effect of Non–Standard External Factors on Physical Properties of Solids". Since 1999, its name was transformed to current name "Applied Physics of Condensed Matter" (APCOM). APCOM provides an unique opportunity for experts in the field of applied physical research of condensed matter to come together and share their visions of future development and in the area of application of devices for example in electrical and nuclear power engineering, electronic and optical communication etc. The main focus of the conference is on presentation of both theoretical and experimental results, partly also of both computer simulation results and specific measurements techniques in the investigation of physical properties and structure of bulk solids and structures, thin solid films, ultrathin organic polymer films, micro- and nanostructures *etc.*, exposed to the influence of the wide-range specific external factors (electrical, magnetic, thermal, high-frequency electromagnetic waves, optical and ionized radiation, ion and elementary particles beams and so on).

This year the international workshop **Current Successes in the Photoemission** and the scientific conference **Nuclear Engineering** take place together with the above one.

The international workshop Current Successes in the Photoemission was supported by





EUROPEAN UNION European Structural and Investment Funds Operational Programme Research, Development and Education



within the project No. CZ.02.1.01/0.0/0.0/15_003/0000358 Computational and experimental design of advanced materials with new functionalities (CEDAMNF), co-organised by J. Krempasky (PSI, Switzerland) and J. Minar (UWB Plzeň, Czech Republic).

The scientific conference **Nuclear Engineering** was supported by the Slovak Research Development Agency within the project No. APVV-16-0288 and by



Main content areas:

- 1. New materials and structures (incl. nanostructures and thin films), their analysis and specific applications
- 2. Physical properties and structural aspects of solid materials and their influencing
- 3. Optical phenomena in materials, photovoltaics and photonics, new principles in sensors, and detection methods, applied optics and optical communications
- 4. Nuclear science and technology (with emphasis on the influence of irradiation on physical properties of materials and radiation detection)
- 5. Computational physics and theory of physical properties of matter
- 6. Biophysics and interdisciplinary physics of condensed matter

List of reviewers:

- J. Sitek, FEEIT STU Bratislava, SK
- J. Cirák, FEEIT STU Bratislava, SK
- L. Harmatha, FEEIT STU Bratislava, SK
- K. Hricovini, CPU Cergy-Pontoise, FR
- J. Minár, UWB Plzeň, CZ
- J. Müllerová, FEE Žilina University, SK
- D. Seyringer, FHV Dornbirn, AT
- B. Sopko, CUT Prague, CZ
- P. Švec, IP SAS Bratislava, SK
- I. Jamnický, FEE Žilina University, SK
- J. Vajda, FEEIT STU Bratislava, SK

and many other co-workers from different scientific workplaces