

PROGRAM

<u>9.10.2018</u>

8.30.00-10.00 Registration, Renaissance Minsk Hotel, Second floor, in front of the Conference Room

Chairman: Grinyov B.

Plenary Session (Ball Room 1)

10.00-10.10	Shumilin A., Opening of the Conference
10.10-10.20	Korzhik M., Welcome from Chairman
10.20-10.30	Grinyov B., Welcome from the International Organizing Committee
10.30-11.00	Auffray E., Invited talk, CERN, Crystal Clear Collaboration an example of
	multidisciplinary work and international cooperation

11.00-11.30 Coffee Break and Registration

Plenary Session (Ball Room 1)

Physics of the materials for radiation detection-I

- 11.30-12.00 Vasil'ev A., Invited talk, SINP MSU, Physics of fast processes in scintillators
- 12.00-12.30 Gektin A., Invited talk, ISMA, Key trends in scintillation physics
- 12.30-13.00 **Tamulaitis G.**, *Invited talk*, Vilnius University, Transient Phenomena in Scintillation Materials. New Results

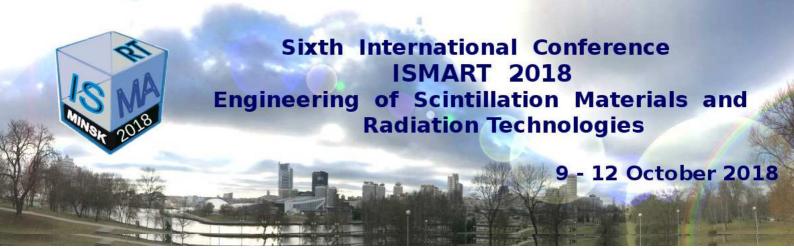
13.00-14.30 Lunch and Registration

Plenary Session (Ball Room 1)

Detectors for high energy physics

Chairman: Korzhik M.

14.30-15.00 **Iyudin A.,** *Invited talk*, SINP MSU, Application of scintillation detectors in cosmic experiments



- 15.00-15.20 Singovski A., *Invited talk*, Minnesota University, CMS ECAL detector Phase II upgrade
- 15.20-15.40 **Moritz M.,** Justus Liebig University, The Electromagnetic Calorimeter for the PANDA Target Spectrometer
- 15.40-16.00 Gilewsky V., Invited talk, JIPNR-Sosny, Antineutrino detectors
- 16.00-16.20 Kireyeu V., Invited talk, JINR, Project NICA

16.20-16.50 Coffee Break and Registration

Plenary Session (Ball Room 1)

Detectors and materials for radiation detection-I

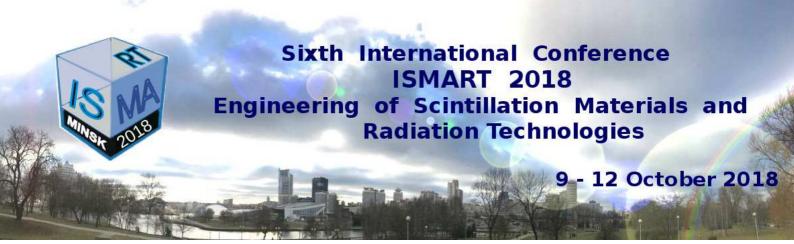
Chairman: Vasil'ev A.

- 16.50-17.10 **Kornoukhov V,** FOMOS-Materials, Enriched ⁴⁰Ca¹⁰⁰MoO₄ single crystalline material for search of neutrinoless double beta decay
- 17.10-17.30 Zhmurin P., ISMA, Plastic scintillators with the improved radiation hardness level
- 17.30-17.50 **Rusiecka K.,** Jagellonian University, Investigation of the properties of the heavy scintillation fibers for hadron therapy monitoring
- 17.50-18.10 **Dimova T.,** Novosibirsk State University, Calibration and performance of the CMS electromagnetic calorimeter during the LHC Run-II
- 18.10-18.30 Vasilyev M., Khabashesku V., Trat'siak Ya., Baker Hughes a GE Company, Nanoengineered Gd₃Al₂Ga₃O₁₂ scintillation materials with disordered garnet structure for novel detectors of ionizing radiation
- 18.30-18.50 **David E. L.,** Development of a submillimeter portable gamma-ray imaging detector, based on a GAGG:Ce-silicon photomultiplier array

14.00 Opening of the industrial exhibition (Conference room 6)

14.00-19.00 Poster session – Technologies, materials and instrumentation (Conference room 5)

- 1. Gordienko E., NRC "Kurchatov Institute", Scintillator powder and ceramics of multicomponent oxides with a garnet structure problem of a composition control
- 2. **Dubovik A.,** ISMA, Growing and properties of Zn_xMg_{1-x}WO₄ mixed crystals
- 3. Galkin S., ISMA, ZnSe scintillators, growing technology and luminescent parameters
- 4. Krech A., ISMA, Radiation hard compoiste scintillators
- 5. Gorbachova T., ISMA, The impact of deep traps of structural origin on the optical and scintillation characteristics of organic scintillators
- 6. Nepokypnaya T., ISMA, New composite detectors for medical x-ray diagnostics



- 7. Vashchenko L., ISMA, On new aspects of metrological activity at our institute with the entry into force of the new Law of Ukraine "On Metrology and Metrological Activity"
- 8. **Kuznetsova D.,** NRC "Kurchatov Institute", YAG:Ce micro- and nanostructured powders technological considerations
- 9. Khoroshko L., Gaponenko N., Rudenko M., Sukalin K., Shaidakova K., Raichyonok T., Mudry A., BSUIR, Sol-gel derived nanostructured yttrium-aluminum garnets powders doped with lanthanides
- 10. **Khoroshko L., Baglov A.,** BSUIR, Radioluminescent nanostructured yttrium-aluminum perovskite doped with terbium embedded in porous anodic alumina matrix
- 11. Gurdjian N., ISMA, Statistical estimation of quality of measurement of minimal detected activity of radionuclides by plastic scintillators for portal monitors
- 12. Onyfriev Yu., ISMA, Scintillation elements for the CMS High Granularity Calorimeter
- 13. Galenin E., ISMA, Low activated SrI₂:Eu detectors
- 14. **Makarevich K**., INP BSU, "Fluence-to-dose" conversion coefficients for whole body irradiation geometry
- 15. Afanasiev K., INP BSU, Measurement system for characterisation of new type GEMdetectors for MPD experiment at NICA
- 16. **Haurylavets V.**, INP BSU, The electromagnetic shower simulation in GEANT4 with taking into account crystalline structure of medium
- 17. Orsich P., INP BSU, Longevity Evaluation of the PANDA EMC at FAIR
- 18. Mechinsky V., INP BSU, Portable bench to evaluate coincidence time resolution of scintillation materials in temperature range
- 19. Lazarev V., ISMA, An evidence of light yield anisotropy for a small p-torphenyl single crystal
- 20. **Grishin S.**, SSPA "Optics, Optoelectronics and Laser Technology", Experimental investigation of on-board charged particles spectrometer and gamma-ray telescope detecting modules characteristics
- 21. Grishin S., SSPA "Optics, Optoelectronics and Laser Technology", Prototyping and experimental research of radiation detection modules
- 22. **Yamniy V.,** ADANI, Development of X-ray generator of 80 to 160 keV energy and 1.2 mA current
- 23. Trat'siak Ya., IPCP BSU, Novel luminescent materials for wide applications
- 24. **Pokidov A.,** ISSP RAS, Improvement of light yield and spatial resolution in scintillation composites transformed to nanofibers
- 25. **Dybatovka D.,** ATOMTEX, Radiation control station comprising scintillation detection unit of spectrometric type
- 26. Opolonin A., ISMA, Multi-energy radiography, physical principles, applications
- 27. Kozlov D., INP BSU, Setup for characterization of scintillators to detect neutrons
- 28. Tolkachev A., Stepanov Institute of Physics NANB, Scintillant florescence of cis-azoalkanes



- 29. Onufriyev Yu., ISMA, Radiation hard reflectors for scintillation modules for HEP
- 30. Garankin Je., Center of Physical Science and Technology, BF-e using in ionizing radiation detection
- 31. **Vujčić I.,** University of Belgrade, Gamma radiation effects on structural and optical properties of Eu-doped (Y_{0.7}Gd_{0.3})₂O₃ scintillators
- 32. Denisov D., GAMON highly scalable modular gamma / neutron monitoring systems

<u>10.10.2018</u>

Industrial Exhibition (Conference room 6)

Plenary Session (Ball Room 1)

Materials production technologies-I

Chairman: Kornoukhov V.

- 9.00-9.30 **Dosovitskiy G.**, *Invited talk*, NRC "Kurchatov Institute", Pure raw materials for scintillation detectors of ionizing radiation
- 9.30-9.50 **Cherginets V.,** ISMA, Obtaining and functional characteristics of Eu²⁺-activated scintillation materials on the basis of congruent compounds of alkali and alkaline earth metal chlorides and bromides
- 9.50-10.10 **Sokolov P.,** *Invited talk*, NRC "Kurchatov Institute", Towards new production technologies: 3D printing of scintillation materials
- 10.10-10.30 Sidletskiy O.C., Invited talk, ISMA, Issues of carbon doping in garnet scintillators
- 10.30-11.10 Coffee Break and Registration

Materials production technologies-II

Chairman: Dosovitskiy G.

- 11.10-11.30 Taranyuk V., ISMA, Novel approaches to produce scintillation materials
- 11.30-11.50 **Gerasymov Ia.,** ISMA, Progress in fabrication of long YAG-based scintillation fibers for HEP experiments
- 11.50-12.10 **Karpuk P.,** NRC "Kurchatov Institute", Processing of scintillation ceramics based on complex oxides with garnet structure



- 12.10-12.30 **Onyfriev Yu.,** ISMA, Radiation resistance of scintillators based on diamond micropowders
- 12.30-12.50 Ilyin I., MERCK, Evaporation chemical by MERCK
- 12.50-14.30 Lunch

Instrumentation-I

Chairman: Iyudin A.

- 14.30-15.00 **Mazzi A.**, *Invited talk*, Fondazione Bruno Kessler, Performance of FBK silicon photomultipliers in fast timing applications
- 15.00-15.15 **Khodyuk I.,** CapeSym, ScintiClear based radiation detectors for high-precision gamma spectroscopy
- 15.15-15.45 **Uglov T.,** Lebedev Physical Institute, K-long and muon registration system of the Belle-II detector
- 15.45-16.00 **David E. L.**, University of West Attica, Evaluation of a small field of view personal gamma-spectrometer under ¹³⁷Cs irradition conditions
- 16.00-16.15 Lobko A., INP BSU, Specifics of 3D printed electronics
- 16-15-16.30 **Babin V.I.,** The Institute in Physical Technical Problems, The polymerizer with an airconvection method of heat transfer for plastic scintillators production. Advantages and technology features
- 16.30-17.00 Coffee Break

Neutron detection -I

- Chairman: Gilewsky V.
- 17.00-17.20 **Fedorov A.,** INP BSU, Simulation and experimental study of GAGG:Ce detector of fast neutrons
- 17.20-17.35 **Dormenev V.,** Justus-Liebig-University, Responce of different types of Gd based scintillation materials to Am-Be netron sourse
- 17.35-17.50 **Yakimenko I.,** Kharkov National University, Detectors of fast netrons, the mechanisms to register fast neutrons
- 17.50-18.05 Kavrigin P., CIVIDEC, Neutron cross section measurement with diamond detector
- 18.05-18.20 Fiserova L., University of Defence, Thermal neutron detector based on LaOBr:Ce/LiF
- 18.20-18. 35 Opolonin A., ISMA, Multi-energy radiography, physical principles, applications



- 18.35-18.50 **Kruglov V.,** JINR, Wide-aperture backscattering detector for the IBR-2 FDWR diffractometer
- 16.00-19.00 Poster session Technologies, materials and instrumentation-Continuation (Conference room 5)

<u>11.10.2018</u>

Industrial Exhibition (Conference room 6)

Plenary Session (Ball Room 1)

Physics of the materials for radiation detection-II

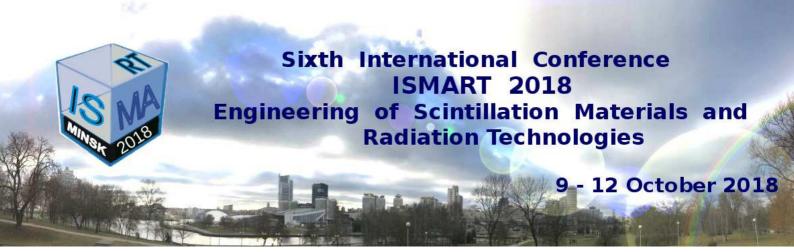
Chairman: Tamulaitis G.

- 9.00-9.20 **Omelkov S.**, *Invited talk*, Insitute of Physics, University of Tartu, New properties and prospects for hot intraband luminescence
- 9.20-9.40 **Ogurtsov A.,** Kharkov National Technical University, Renormalization of atomic cryocrystals luminescence spectra stimulated by excitonicaly induced defect formation
- 9.40-10.00 **Ulyanenkov A**, *Invited talk*, Atomicus GmbH, Investigation of microstructure of irradiated multilayer ZrN/Si₃N₄ thin coatings revealed by X-ray diffraction techniques
- 10.00-10.20 **Nargelas S.,** Vilnius University, Transient absorption technique as a tool for characterization of scintillator timing properties
- 10.20-10.40 Coffee Break

Instrumentation-II

Chairman: Brinkmann K.-Th.

- 10.40-11.00 **Krainukovs I.**, Baltic Scientific Instruments, Application of LaBr₃(Ce) scintillation detectors in radiation monitoring equipment
- 11.00-11.15 **Drobyshev G.,** ADANI, Development of the X-ray security screening systems at ADANI
- 11.15-11.30 **Baev V.,** INP BSU, Research complex for Mossbauer spectroscopy with a closed cycle cryostat for determining the local state of Fe atoms in iron-containing materials
- 11.30-11.45 **Sytova S.,** INP BSU, Information tool for support activities in supervision for nuclear and radiation safety



Instrumentation-III

Chairman: Drobyshev G.

- 11.50-12.05 Alekseichuk I., ATOMTEX, Enhancement of multifunctional AT1117M radiation monitor
- 12.05-12.20 **Komar D.,** ATOMTEX, LaBr₃(Ce)-based smart detection unit for investigation of capture gamma radiation field with energies from 30 keV to 10 MeV
- 12.20-12.35 **Lukashevich R.,** ATOMTEX, Application scintillation comparators for calibration low intense gamma radiation fields by dose rate in the range of $0.03 0.1 \ \mu$ Sv/h
- 12.35-12.50 **Kozemyakin V.,** ATOMTEX, Gamma-radiation detection units and equipment for using as part of unmanned remotely operated radiation control systems
- 12.50-13.10 **Kazimirov A.,** The scintilletary detectors usage in spectrometric devices and systems for radiation and environmental monitoring
- 13.10-14.30 Lunch

Instrumentation-IV

- Chairman: Gektin A.
- 14.30-14.45 **Slavashevich I.,** ADANI, Optimization of physical-topological parameters of twoenergy X-ray detectors used in inspection and examination equipment
- 14.45-15.00 **Gorshkov D.,** ATOMTEX, Sample counter for gross alpha/beta activity measurements based on phoswich detector
- 15.00-15.15 **Lukashevich R.,** ATOMTEX, Generation of low-intensity X-ray radiation fields for investigation of energy dependence of high-sensitive radiation monitoring instruments based on scintillation detection units
- 15.15-15.30 Yamniy V., ADANI, X-ray security scrining system for introscopy of heavy vehicles
- 15.30-15.45 **Kudin A.,** National University of Civil Defence, Experimental manifestation of CsI:Na crystal hygroscopicity
- 15.45-16.05 **Mokrousov M.,** Space Research Institute, Prospective space based equipment on a base of LaBr₃ and CeBr₃ scintillators for exploration of the solar system planets

14.00-18.00 Training cource for dosimetry of ionizing radition at ATOMTEX facilities (Transportation Hotel –ATOMTEX and back)



14.45-18.00 Excursion. Victory Museum

19.00-22.00 Conference Dinner

12.10.2018

Plenary Session (Ball Room 1)

Instrumentation-V

Chairman: Lobko A.

9.30-9.50	Bredikhin I., Digital systems for multi-parameter analysis and data collection by CAEN
9. 50-10.10	Anfimov N., JINR, State of art for silicon photo-multipliers development
10.10-10.30	Zhukouski A., ATOMTEX, Method for nuclides mix identification in analysis of gamma ray scintillation spectra
10.30-10.50	Dyomin A., ISMA, Cluster ISMA-UA as an High Energy Physics Instrument
10.50-11.20	Coffee break
11.20-11.40	Pedash V., ISMA, Characterization of position sensitive detectors with positioning algorithms trained by simulated reference data
11.40-12.00	Verenich K., INP BSU, Control of organ and tissue doses to patients during Computed
	Tomography
12.00-12.10	Korzhik M., Closing of the Conference