



# 23rd International Workshop on Radiation Imaging Detectors

## Monday, 27 June 2022

### Poster: 1 - Palavela (16:20 - 17:50)

-Conveners: Coralie Neubuser; Giovanni Paternoster

time	[id] title	presenter
16:20	[47] Specifications and Pre-production Experience of n <sup>+</sup> -in-p Large-format Strip Sensors fabricated in 6-inch Silicon Wafers, ATLAS18, for Inner Tracker of ATLAS Detector for High-Luminosity Large Hadron Collider	MIKESTIKOVA, Marcela
16:21	[46] Establishing the Quality Assurance Programme for the Strip Sensor Production of the ATLAS Tracker Upgrade Including Irradiation with Neutrons, Photons and Protons to HL-LHC Fluences	KOPSALIS, Ioannis
16:22	[92] Image characterization and optimization of high-resolution scintillators on digital X-ray imaging detector	Dr CHA, Bo Kyung
16:23	[99] Radiation detectors and their applications in medical imaging	OZSAHIN, Ilker
16:24	[133] Digital signal processing for position-sensitive gamma ray detectors	PINAROLI, Giovanni
16:25	[144] Resistive read-out in silicon detectors	FERRERO, Marco
16:26	[196] Tomographic Image Reconstruction Techniques for Accurate Spent Fuel Assembly Verification	Dr KIM, Hyemi
16:27	[205] Water mapping neutron spectrometer HardPix for EL3 Polar Explorer	FILGAS, Robert
16:28	[6] A Scattered X-ray Correction Method and its Verification by Energy-resolved CT	Prof. KANNO, Ikuo
16:29	[14] Design Optimization of X-ray Security Scanner Based on Dual-energy Transmission Imaging with Variable Tube Voltages	PARK, Junsung
16:30	[17] Development of deep learning-based C-arm CT/SPECT imaging system for online adaptive brachytherapy	LEE, Minjae
16:31	[31] Preliminary Study on Neutron Activation Analysis for Various Substances Using Room-temperature CZT Detector	KIM, Jae Hyeon
16:32	[37] Ion imaging and material determination using a beam telescope	GAGGL, Philipp
16:33	[48] Improvement of $\beta$ + $\gamma$ discrimination algorithm based on deep-learning	KIM, Chanhoo
16:34	[64] Design Optimization of Backscatter X-ray Security Scanner Based on Pencil Beam Scanning	Mr AN, Geunyoung
16:35	[70] A time-of-flight based neutron background reduction for imaging of proton-induced secondary-electron-bremsstrahlung x-rays: A Monte Carlo study	Dr YABE, Takuya
16:36	[71] Particle beam imaging by measuring secondary electron bremsstrahlung using a CdTe imager	TSUDA, Michiko
16:37	[73] Simulation study on carbon-ion beam imaging by measuring secondary electron bremsstrahlung using an imaging plate	Dr YAMAGUCHI, Mitsutaka
16:38	[114] Flexible Data Acquisition Software for Imaging of Radiation Dose Spatial Distribution for Radiotherapy Treatment Planning	Mr JURGIELEWICZ, Paweł
16:40	[180] Visualization of Sulfur Impregnation on Single Fibre Level for Chemical Thermo Mechanical Pulp	LAI, Barry NORLIN, Börje

16:41	[124] Silicon-Carbide detectors operating at increased temperatures	GÁL, Norbert
16:42	[125] New Insight into Gain Suppression and Single Event Burnout Effects in LGAD	LASTOVICKA MEDIN, Gordana
16:43	[128] The ATLAS ITk Strip Detector System for the Phase-II LHC Upgrade	SCHARF, Christian
16:44	[137] Tolerance of MIMOSIS-1 to ionizing radiation	Mr DARWISH, Hasan
16:46	[148] X-rays DSLR	HUNWOO, Lee
16:48	[162] Results Obtained with FBK Pixel Sensor Prototypes for the HL-LHC Tracker Upgrade of the CMS Experiment	BARDELLI, Giulio
16:49	[174] GaAs radiation-degraded detectors: gamma spectrometry at lowered temperatures	SAGATOVA, Andrea
16:50	[187] Large area hybrid detectors based on Medipix3RX: commissioning and characterization at Sirius beamlines	BACK CAMPANELLI, Raul
16:51	[201] Technological, computational and methodological aspects of High Dynamic Range Imaging	Dr FRANCESCO, Guzzi
16:52	[202] The LumiTracker: a hybrid pixel detector for luminosity measurements	ROLF, David
16:53	[138] Multi-modal Approach to Ionizing Radiation Source Localization by an Unmanned Aerial Vehicle	Mr ŠTIBINGER, Petr
16:54	[164] THCOBRA Detector Operating in Mixtures of Kr/Xe	DAS NEVES DIAS CARRAMATE, Lara Filipa
16:55	[168] Applications of soft X-ray Synchrotron camera based on Back Side Illuminated CMOS sensor	Mr DESJARDINS, Kewin
16:56	[181] The LIME gaseous TPC prototype for the CYGNO experiment	DI GIAMBATTISTA, Flaminia
16:57	[184] Simulations using NCrystal & Geant4 for innovative solid-state neutron detectors	O'NEILL, George
16:58	[34] Degradation of signal-to-noise ratio in counting detectors due to pile-up effects	MAGALHAES SUAREZ, Debora
16:59	[28] Design and optimization of the read-out electronics for high energy resolution X-ray strip detectors	ZUBRZYCKA, Weronika
17:00	[43] Characterisation of the noise performance of the HEXITEC-MHz ASIC	CLINE, Ben
17:02	[65] Quantum efficiency measurements of FBK sensors with optimized entrance window for soft X-Rays	CARULLA ARESTE, Maria del Mar
17:03	[122] Ion-Backflow Measurements of a Single Gas Electron Multiplier Foil	BRUCKEN, Jens Erik KALLIOKOSKI, Matti
17:04	[100] Characterization of a Timepix3 quad for space application in the penetrating particle analyzer (PAN)	BURIAN, Petr
17:05	[141] The compact Timepix2 based radiation detector for radiation tracking and imaging in space and industry	JAKUBEK, Jan
17:06	[22] Spacepix-2: Sol MAPS Detector for Space Radiation Monitoring	VANCURA, Pavel
17:07	[32] Small pixel ultra-fast photon-counting prototype IC for synchrotron applications	GRYBOS, Pawel
17:08	[33] Hardware acceleration and machine learning for detector data processing at synchrotrons and FELs	PENNICARD, David
17:09	[44] Optimising the design of small pitch Hybrid Pixel Detectors with MÖNCH04	Dr HEYMES, Julian
17:10	[55] Gamma-Ultrasound Signal Separation Using Autoencoder	CHOI, Kyung-Seok

17:11	[58] First demonstration of on-chip interpolation using a single photon counting microstrip detector	BERGAMASCHI, Anna
17:13	[79] Charge sharing measurements for digital algorithms achieving subpixel resolution in hybrid pixel detectors.	KRZYŻANOWSKA, Aleksandra
17:14	[85] Analysis and Characterization of CdTe Material Surface Defects	BEZAK, Mihaela
17:15	[86] Charge sharing in sub-millimetre CdZnTe linear array detectors grown by the vertical Bridgman technique	Dr BUTTACAVOLI, Antonino
17:16	[88] TCAD optimization of LGAD sensors for extremely high fluence applications	CROCI, Tommaso
17:17	[95] Monte-Carlo simulation of charge sharing in 2 mm thick pixelated CdTe sensor	JIRSA, Jakub
17:18	[119] From single silicon carbide detector to pixelated structure for radiation imaging camera	Dr ZATKO, Bohumir
17:19	[120] Performance Evaluation of the Stitched Passive CMOS Strip Sensors before and after irradiation	SHARMA, Surabhi
17:20	[82] CsPbBr <sub>3</sub> Nanowire Scintillator for High-resolution X-ray tomography	DIERKS, Hanna
17:21	[189] Alpha-Particle Imaging Device with Super-Resolution Technique	Dr KIM, JONG-GUK
17:23	[190] Optimization of energy threshold for fluorescence rejection in K-edge subtraction in synchrotron-based imaging with a spectral CdTe detector	Prof. DELOGU, PASQUALE
17:24	[198] Fast-Settling high input dynamic range Automatic Gain Control Front-end circuit for particle detect	Mr DENG, Yunqi
17:25	[188] A new design of stationary dual-energy CT baggage scanner with pi-angle sparsity using compressed-sensing reconstruction	Mr SHIM, Jiyong
17:26	[87] A 2.56 Gbps or 10 Gbps 1:16 Deserializer for High-Energy Physics Experiments	GUO, Di CHEN, Qiangjun
17:28	[178] Neutron Imaging Detectors using Ultra-Thin Converter Layers	BERNARDES MONTEIRO, Cristina
17:29	[97] Evaluation of new scintillator crystals with multi-criteria decision-making methods for brain PET	Dr OZSAHIN, Ilker
17:30	[194] Xray-CMOS: a wide field of view X-ray polarimeter	BARACCHINI, Elisabetta
17:31	[208] The design and implementation of an ANN architecture for in-pixel signal processing	KOZIOŁ, Anna

# Wednesday, 29 June 2022

## Poster: 2 - Palavela (16:20 - 17:50)

-Conveners: Nicola Massari; Lucio Pancheri

time	[id] title	presenter
16:40	[40] ATLAS-ITk strip sensor quality control procedures and testing site qualification	MIKESTIKOVA, Marcela
16:41	[69] A Study on Changes in Detection Sensitivity of Indirect X-ray Detector by Adjusting 2D Nanoplatelet Aspect Ratio	Mr LEE, Kwanyong
16:42	[109] Design and Development of Gd <sub>2</sub> O <sub>2</sub> STb phosphor compound coupled Lead iodide photo dosimeter for gamma-ray detecting	HEO, YEJI Mr YANG, Seung Woo
16:43	[213] Long-drift position-sensitive virtual Frisch-grid CdZnTe detectors for gamma ray imaging and spectroscopy	PINAROLI, Giovanni
16:44	[207] Radiation spectrometer HardPix for Lunar Gateway	FILGAS, Robert
16:45	[197] Characterization Analysis of Benign or Malignant Microcalcifications Using Dual-Energy Imaging	Dr KIM, Hyemi
16:47	[94] Configuration and X-ray image characterization of a dual-layer based flat panel detector	CHA, Bo Kyung
16:48	[77] ThyroPIX – Mobile Compton camera based on Timepix3 technology for imaging in the field of preclinical and clinical praxis	TROJANOVA, Eliska
16:49	[118] 3D reconstruction of the positron annihilation position using J-PET modules coupled to an intense positron beam	POVOLO, Luca
16:50	[147] Assembly and tests of the first TRISTAN detector modules	FIORINI, Carlo SIEGMANN, Daniel EDZARDS, Frank URBAN, Korbinian CARMINATI, Marco GUGIATTI, Matteo LECHNER, Peter KING, Pietro MERTENS, Susanne
16:51	[150] Angular sensitivity of 2D phase-sensitive Beam-Tracking X-ray Micro Computed Tomography systems	ENDRIZZI, Marco
16:52	[169] Spectral-tracking characterization of mixed-radiation fields with the miniaturized radiation camera MiniPIX Timepix2	Dr GRANJA, Carlos
16:55	[192] Improvement of double photon emission Compton imaging using polarization correlation in cascade photons.	KIM, Donghwan
16:57	[203] Timepix3 based coded aperture camera for X-ray fluorescence surface mapping	ZEMLICKA, Jan
16:58	[210] Prototype of a module of a Compton camera for online beam range monitoring in proton therapy	KOŁODZIEJ, Magdalena
16:59	[111] Modular Data Acquisition System of a Reconfigurable Detector for Measuring the Spatial Distribution of Therapeutic Radiation Dose	KOPEĆ, Maciej Paweł
17:00	[186] Empirical design criteria for improving image quality in grid-based phase-contrast x-ray imaging system	LEE, Hunwoo
17:01	[193] Unified Modulation Pattern Analysis algorithm (UMPA) for 1D sensitive X-Ray Phase Contrast Imaging techniques	Dr DI TRAPANI, Vittorio

17:02	[5] Multi Module >50 kfps Detector System for Time Resolved Experiments	Dr NAKAYE, Yasukazu
17:03	[8] Commissioning of the upgraded RICH system at the LHCb experiment	OKAMURA, Shinichi
17:04	[12] Design and performance of the FOOT calorimeter with particle-ID capabilities	BARTOSIK, Nazar
17:05	[15] Study of Performance Parameters for a SiPM-Based Digital Positron Annihilation Lifetime Spectrometer	Mr CHOI, Hyunwoong
17:06	[16] Investigating the Effect of Depth of Interaction on Coincidence Timing Resolution	Mr KO, KILYOUNG
17:07	[18] An analytical model for Fluorescent and Scattering X-ray Beam Monitor designing	SACCHETTI, Elio
17:08	[23] Calibration and first operation of the JUNGFRU detector in 16-memory cells mode at European XFEL	RAMILLI, Marco
17:09	[27] Novel technique for large GEM-foils production the "Random Segmentation"; Simpler production method with higher GEM detector performances	BIANCO, Michele
17:10	[53] A New Multiplexing Method for SiPM Using a Deep Learning Architecture	KIM, Semin
17:11	[76] SpacePix Radiation Monitor: Sol MAPS Detector for Space Radiation Monitoring	Dr JANOSKA, Zdenko
17:12	[78] Detection of MeV electrons using a charge integrating hybrid pixel detector	FRÖJDH, Erik
17:13	[9] Safeguards Implement Equipment for Spent Nuclear Fuel of CANDU	KIM, Yewon
17:14	[116] The CirPAD, a novel circular 1.4M pixel detectors for X-ray diffraction measurements at Synchrotron SOLEIL	Dr DAWIEC, Arkadiusz
17:15	[75] A machine learning approach in the estimation of a radioactive source position using a coded aperture device	Dr KAISSAS, Ioannis
17:16	[66] A dE/dx-E position sensitive charged particle spectrometer	URBAN, Ondrej
17:17	[74] Concept of a mobile gamma spectrometer based on the SIPM	HOLIK, Michael
17:18	[81] Spectroscopic Imaging of Hard X-rays for Material Science Applications	VEALE, Matthew
17:19	[108] Hybrid Pixel Smart Detector with Integrated RISC-V Microprocessor	SKRZYPIEC, Pawel SZCZYGIEL, Robert
17:20	[135] Development of a Prompt Gamma-ray Neutron Activation Analysis System for the detection of explosive materials	OH, Kyungmin KIM, Jae Hyeon
17:21	[7] Characterisation of heavily irradiated dielectrics for AC-coupled pixel detectors	BHARTHUAR, Shudhashil
17:22	[130] Performance of triple-GEM detectors for the Phase-2 CMS upgrade and a high-resolution GEM telescope measured in a test beam	KANG, Yechan
17:23	[42] Electrical characterisation and gain measurement of 50um thick pads LGAD	Mr LOMBIGIT, Lojius
17:24	[61] Low-energy X-ray detection with JUNGFRU	Dr HINGER, Viktoria SCHMITT, Bernd
17:25	[142] Development of novel single-die hybridisation processes for small-pitch pixel detectors	SVIHRA, Peter
17:26	[101] Characterization of 3.2 Gbps readout in 65 nm CMOS technology	JANSKY, Marek
17:27	[112] Backside channel for extended range of Spacepix-2 Sol MAPS detector	GECNUK, Josef
17:28	[165] Automated, adaptive, fast reset circuit for wide-energy range detector front-end	KACZMARCZYK, Piotr

17:29	[175] SMAUG_ND_1 - an integrated circuit that implements the prototype method of indirect voltage measurements by measuring the noise distribution curve.	WEGRZYN, Grzegorz Jan
17:31	[158] Performance of the isolated components of a hybrid spectrometer	BERGMANN, Benedikt BERGMANN, Benedikt Ludwig
17:32	[10] Optoelectronic properties of High-Flux CdZnTe with optimized electrodes	Dr BAUSSENS, Oriane
17:33	[80] Timepix3 Compton camera and its evaluation for selected application fields	DOUBRAVOVA, Daniela
17:34	[39] Experimental determination of charge carrier transport models for improving simulation of the HR GaAs:Cr detectors response	Dr SMOLYANSKIY, Petr
17:35	[67] Study of MIPs effects on a MAPS for Electron Ion Collider in China	Prof. ZHAO, Chengxin Mr JING, Liuqing
17:36	[149] Spectral tracking of protons by the Timepix3 detector with GaAs, CdTe and Si sensors	NOVÁK, Andrej
17:37	[153] Silicon Detectors Beyond LHC – RD50 Status Report	ZAREEF, Fasih
17:38	[161] Indium Bump Deposition Techniques on Wafers and Individual Die Chips for Flip-Chip Bonding of Hybrid X-ray Detectors	GHOUBANIAN, Navid
17:39	[172] Quality Control (QC) of FBK 3D Si Sensors from the ATLAS ITk Preproduction	Dr SULTAN, D M S
17:40	[212] Performance of neutron-irradiated 4H-Silicon Carbide pad diodes subjected to Alpha Particles, UV Laser Pulses, and proton beams	GAGGL, Philipp
17:41	[151] Cold Temperature Characterization of Ring Triplets based on RD53a readout chip	SAMY, Md Arif Abdulla
17:43	[199] SiPM readout chip design for Heavy-ion Physics	Mr XIONG, Binqiang
17:44	[30] Detector Challenges of the strong-field QED experiment LUXE at the European XFEL	SANTRA, Arka
17:45	[68] A 20 Gbps PAM4 Receiver ASIC in 55 nm for Detector Front-end Readout	CHEN, Qiangjun GUO, Di
17:46	[49] Fast neutron measurement for homeland security using PSD of neutrons and X-rays generated by LINAC	SONG, Gyohyeok
17:47	[177] Characterization of Micro Pore Optics for Full-field X-ray Fluorescence Imaging	NORLIN, Börje
17:48	[171] ANN on-chip and in-pixel implementation towards pulse amplitude measurement	KOZIOŁ, Anna
17:49	[156] Design and preliminary performance of scintillators-based unmanned aerial vehicle for low-cost remote radiation detection	Mrs SIM, Jiyong
17:49	[91] A 2.56 Gbps or 10 Gbps Clock Data Recovery ASIC for Detector Front-end Readout	ZHAO, Cong GUO, Di