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Joint Sessions

J1 NSS-MIC Joint Session I

J1-4: STiC2 - Characterization Results of a SiPM Readout ASIC for Time-of-Flight Applications

Alejandro Gil, Hans-Christian Schultz-Coulon, Huangshan Chen, Konrad Briggl, Michael Ritzert, Peter Fischer, Tobias Harion, Vera Stankova, Wei Shen

J1-5: Low Dead Time SPAD Digital Readout Architecture for Real Time PET

Alexandre Boisvert, Etienne Desaulniers Lamy, Jean-Francois Pratte, Marc-Andre Tetrault, Rejean Fontaine

J1-7: Timing and Energy Resolution of New near-UV SiPMs Coupled to LaBr:Ce for TOF-PET

Alberto Gola, Alessandro Ferri, Alessandro Tarolli, Claudio Piemonte, Jeffrey P Schmall, Joel S Karp, Rony I Wiener, Suleman Surti

J1-8: Electrical Delay Line Multiplexing for Pulsed Mode Radiation Detectors

Craig S. Levin, Jung Yeol Yeom, Ruud Vinke

J2 NSS-MIC Joint Session II

J2-1: Photonic Crystal Structures for Improved Scintillator Performance

Bipin Singh, Christopher J Summers, Hisham Menkara, Vivek V Nagarkar

J2-3: Petiroc, a New Front-End ASIC for Time of Flight Application

Christophe de La Taille, Damien Thienpont, Frederic Dulucq, Gisele Martin, Julien L Fleury, Nathalie Seguin, Salleh Ahmad, Stephane Callier

J2-6: A Novel Sub-Millimeter Resolution PET Detector with TOF Capability

Jie Wen, Qiang Wang, Qingyang Wei, Tianpeng Xu, Tianyu Ma, Yaqiang Liu, Yuan-Chuan Tai

J3 NSS-MIC-RTSD Joint Session

J3-1: Structured GdI₃:Ce Scintillators for X-Ray and Neutron Imaging

Harish B Bhandari, Jarek Glodo, Stuart R Miller, Vivek V Nagarkar

J3-2: Novel Photon-Counting Energy-Resolving Ultra-Fast X-Ray Detector

Craig S. Levin, Mehmet Gunhan Ertosun

J3-7: A 2D 4x4 Channel Readout ASIC for Pixelated CdTe Detectors for Medical Imaging Applications

Carles Puigdengoles, Gianluca De Lorenzo, Jose-Gabriel Macias-Montero, Maher Sarraj, Mokhtar Chmeissani, Ricardo Martinez

J4 NSS-RTSD Joint Session

J4-8: New Developments of SDD-Based X-Ray Detectors for the Siddharta-2 Experiment

Antonino Picciotto, Carlo Fiorini, Claudio Piemonte, Francesco Ficorella, Gabriele Giacomini, Luca Bombelli, Michele Occhipinti, Paolo Busca, Riccardo Quaglia

MIC

M02 MIC Awards and Plenary II

M02-2: LSO Background Radiation as a Transmission Source Using Time of Flight Information

Andrew Moor, Christian J Michel, Harold E Rothfuss, Inki Hong, James Hamill, John W Young, Michael E Casey, Vladimir Y Panin

M02-3: SPADnet: a Fully Digital, Networked Approach to MRI Compatible PET Systems Based on Deep-Submicron CMOS Technology

Ahmet Erdogan, Balazs Jatekos, Chockalingam Veerappan, Claudio Bruschini, David Stoppa, Edoardo Charbon, Eموke Lorincz, Eric Gros d'Aillon, Ferenc Ujhelyi, Gabor Erdei, Gabor Nemeth, Laurent Maingaultg, Leo Huf Campos Braga, Leonardo Gasparini, Lindsay Grant, Loick Verger, Luc Andre, Matto Perenzoni, Nicola Massari, Peter Major, Richard Walker, Robert K. Henderson, Steve East, Vincent Rebound, Zoltan Pepp

M02-4: Element Identification in Organic Samples Utilizing a Modular Benchtop X-Ray Fluorescence Emission Tomography (XFET) System

Andrew Groll, Jon George, Ling-Jian Meng, Patrick J La Riviere

M03 PET Instrumentation

M03-2: Usage of Long Axial Crystals for PET Applications: the AX-PET Demonstrator and Beyond

Chiara Casella

M03-4: A Depth of Interaction PET Detector Using Side Surface Readout

Adrienne L Lehnert, Alberto Del Guerra, Esther Ciarrocchi, Maria Giuseppina Bisogni, Matteo Morrocchi, Robert S Miyaoka, William CJ Hunter

M03-6: General Spatial Distortion Correction Method for Solid-State Position Sensitive Detectors in PET

Arne Vandenbroucke, Craig S. Levin, Matthew Bieniosek, Song Cui

M03-7: Timing Calibration for Time-of-Flight PET Using Positron-Emitting Isotopes and Annihilation Targets, &

Daniel Gagnon, Gin-Chung Wang, Huini Du, Kent Burr, Xiaoli Li

M04 Image Reconstruction I

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Ahmadreza Rezaei, Johan Nuyts

M04-2: Transmission-less brain TOF PET imaging using MLACF - %

Charles Hayden, Harshali Bal, Michael E Casey, Michel Defrise, Vladimir Y Panin

M04-3: An MLEM Method for Simultaneous Activity and Attenuation Reconstruction for PET Using True and Scattered Coincidences - ,

Alex Mihlin, Craig S Levin

M04-5: Power Laws for Image Quality Measures in PET Penalized-Likelihood Image Reconstruction - %\$%

Evren Asma, Ravindra M Manjeshwar, Ross G Steven, Sangtae Ahn

M04-6: Feasible Uniform-Resolution Penalized Likelihood Reconstruction for Static- and Multi-frame 3D PET

Richard E Carson, Yiqiang Jian

M04-7: A Continuous-Coordinate Image Reconstruction Method for List-Mode TOF PET

Cheng-Ying Chou, Chien-Min Kao, Chin-Tu Chen, Chung-Yung Tsai, Heejong Kim, Weichung Wang

M05 Multi-Modality Systems / Other Imaging Technologies I

M05-4: Experimental Evaluation of a Deformable Registration Algorithm for Motion Correction in PET-CT Guided Biopsy

Andinet Enquobahrie, Filip Banovac, Giuseppe Esposito, Guillaume Sala, Kevin Cleary, Paul Kinahan, Rahul Khare

M05-5: Development of a Novel MR Head Coil Integrated with PET Detectors: Design and Optimization of Shield Boxes

Atsushi Tachibana, Fumihiko Nishikido, Hideto Kuribayashi, Iwao Nakajima, Kodai Shimizu, Mikio Suga, Taiga Yamaya, Takayuki Obata, Yoshihiko Kawabata

M05-7: Development of Interactive 3D Imaging System for Hepatic Angiography

Ahmad Amin, Ahmed M. Ghanem, Ayman Atia, Essam A. Rashed, Hiroyuki Kudo, Mohammad al-Shatouri

M05-8: Analysis of Three-dimensional Joint Space of the Tibiofemoral Joint

Andreas Maier, Emily J. McWalter, Garry E. Gold, Jang Hwan Choi, Rebecca Fahrig, Saikat Pal

M06 Simulation and Modeling / Tracer Kinetics

M06-1: Direct 4D PET MLEM Reconstruction of Parametric Images Using the Simplified Reference Tissue Model with the Basis Function Method

Andrew J. Reader, Paul Gravel

M06-2: Quantitative Whole-Body Parametric PET Imaging Incorporating a Generalized Patlak Model

Arman Rahmim, Martin A Lodge, Michael E Casey, Nicolas A Karakatsanis, Richard L Wahl, Yun Zhou

M06-3: Evaluation of Sympathetic Nervous System Function in Normal and Spontaneously Hypertensive Rat Hearts with Dynamic SPECT Imaging

Grant T. Gullberg, Qiu Huang, Rostyslav Boutchko, Yunlong Zan

M06-7: Modeling and Estimation of Detector Response and Focal Spot Profile for High-Resolution Iterative CT Reconstruction

Bruno De Man, Jean-Baptiste Thibault, Jiao Wang, Lin Fu, Xue Rui

M06-8: Studies of Electromagnetic Interference of PET Detector Insert for Simultaneous PET/MRI

Alexander M Grant, Brian J Lee, Chen-Ming Chang, Craig S Levin, Key Jo Hong, Peter D Olcott

M07 Imaging in Radiotherapy

M07-1: A Prototype of a Novel Transformable Single-Ring OpenPET

Eiji Yoshida, Fumihiko Nishikido, Hideaki Haneishi, Hideaki Tashima, Hiroshi Ito, Mikio Suga, Naoko Inadama, Taiga Yamaya, Taku Inaniwa, Tetsuya Shinaji, Yasunori Nakajima, Yoshiyuki Hirano

M07-2: Dosimetry by Means of in-Beam PET with RI Beam Irradiation

Eiji Yoshida, Hideaki Tashima, Lembit Sihver, Shinji Sato, Taiga Yamaya, Taku Inaniwa, Toshiyuki Kohno, Yasunori Nakajima, Yoshiyuki Hirano

M07-3: Investigating the Limits of PET/CT Imaging at Very Low True Count Rates in Ion-Beam Therapy Monitoring

Christopher Kurz, Julia Bauer, Katia Parodi, Lars Eriksson, Laura Guerin, Maurizio Conti

M07-4: Development of a Three Layer Compton Telescope Prototype Based on Continuous LaBr3 Crystal and Silicon Photomultipliers

Carles Solaz, Carlos Lacasta, Gabriela Llosa, Irene Torres-Espallardo, John Barrio, John E. Gillam, Jorge Cabello, Josep Oliver, Magdalena Rafecas, Marco Trovato, Pablo Botas, Paola Solevi, Vera Stankova

M07-6: Imaging and Radiation Therapy: GATE Monte Carlo Simulation of a Megavolt Cone Beam CT

Awen Autret, Dimitris Visvikis, Julien Bert, Nicolas Bousson, Olivier Pradier, Saadia Benhalouche

M07-7: A New Concept in Detector Design for Radiation Therapy: Simultaneous Imaging and Dosimetry for Comprehensive Treatment Verification

Aimee L McNamara, Lois Holloway, Peter B Greer, Philip J Vial, Samuel J Blake, Zdenka Kuncic

M07-8: Simultaneous Motion Estimation and Image Reconstruction (SMEIR) for 4D Cone-Beam CT

Jing Wang, Xuejun Gu

M08 Signal and Image Processing

M08-1: Comparison of Methods for Classification of Alzheimer's Disease, Frontotemporal Dementia and Asymptomatic Controls

Dorit Merhof, Guenther Platsch, Johannes Kornhuber, Pawel Markiewicz, Torsten Kuwert, Zhijie Wang

M08-3: An Interventricular Sulcus Guided Cardiac Motion Estimation Method

Benjamin M.W. Tsui, George S.K. Fung, Jizhe Wang, Tao Feng

M08-4: Comparison of Different Methods for Data-Driven Respiratory Gating of PET Data

Alexander Ganin, Kris Thielemans, Paul Schleyer, Paul K Marsden, Ravindra M Manjeshwar, Scott D Wollenweber

M08-5: Depth-Aware Template Tracking for Robust Patient Motion Compensation in Interventional 2-D/3-D Image Fusion

Anja Borsdorf, Jian Wang, Joachim Hornegger, Juergen Endres

M08-6: An Automated Visi-Coil Fiducial Markers Detection Method on kV Projection Images During Prostate Radiation Therapy

Jia li, Ling Zhuang, Shirin Badiei

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David W Townsend, Jason Lim Chu-Shern, Jianhua Yan

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Anatoly Ronzhin, Chien-Min Kao, Chin-Tu Chen, Erik Ramberg, Heejong Kim, Pavel Murat, Sergey Los, Stan Majewski, William W. Moses, Woon-Seng Choong

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Amr HABIB, Bertrand DUPONT, Gilles SICARD, Lock VERGER, Marc ARQUES, Michal TCHAGASPANIAN, Pierre ROHR

M09-5: A Row-Column Summing Readout Architecture for SiPM based PET Imaging Systems

Eddie Myers, Jacques C Rudell, Robert Miyaoka, Samrat Dey, Tom Lewellen

M09-6: A PET detector module using LYSO/SiPM and FPGA-only MVT digitizer

Chen Zeng, Chien-Min Kao, Daoming Xi, Heejong Kim, Luyao Wang, Qingguo Xie, Wei Liu, Xiang Liu

M09-7: Algorithm-Enabled High-Performance C-arm Cone-Beam CT Angiography of Cerebral Vasculature

Emil Y. Sidky, Hiromichi Yokoyama, Masanobu Yamada, Michael D. Silver, Satoru Oishi, Tetsu Satow, Xiao Han, Xiaochuan Pan, Yu-Bing Chang, Zheng Zhang

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M10-2: Markerless Motion Tracking for Motion-Compensated Clinical Imaging

Andre Kyme, Roger Fulton, Stephen Se, Steven Meikle

M10-3: Adaptive Recursive Bayesian Estimation Using Expectation Maximization for Respiratory Motion Correction in Nuclear Medicine

Ashrani Abd Rahni, John Jones, Kevin Wells, Rhodri L Smith

M10-4: Task-Based Evaluation of Motion Compensated Reconstructed Images Using 4D Channelized Hotelling Observer in Dual Gated SPECT

Benjamin M. W. Tsui, Taek-Soo Lee, Tao Feng

M10-5: 4D Attenuation Map Generation in PET/MR Imaging Using 4D PET Derived Motion Fields

Christian Wuerslin, Dimitris Visvikis, HADI FAYAD, Holger Schmidt

M10-6: Elastic Motion Correction for Cardiac PET Studies

Inki Hong, Judson Jones, Michael Casey

M10-7: Simultaneous Partial Volume Correction and Noise Regularization for Cardiac SPECT/CT

Albert J Sinusas, Chi Liu, Chung Chan, Hui Liu, Mitchel R Stacy, Yariv Grobstein

M10-8: Partial Volume Correction for Penalized-Likelihood Image Reconstruction in Oncological PET Applications

Evren Asma, Ravindra M Manjeshwar, Sangtae Ahn, Steven G Ross

M11 Emission Tomography Instrumentation I / High Resolution and Pre-Clinical Imaging

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Chinh Vu, David Wilson, Jennifer S Huber, Martin Janecek, Qiyu Peng, Ronald H. Huesman, William W Moses, Woon-Seng Choong

M11-3: Coincidence Time Correction (CTC) Method for TOF-PET Scanners with Correction to Account for Misalignment of Calibration Phantom

Charles W Stearns, David L McDaniel, Jorge Uribe

M11-5: Ability of the Positron Emission Mammography System, PEMi, in Detection of Millimeter-Sized Lesions

Bao tong Feng, Dao wu Li, Dong Dai, Lin Li, Long Wei, Ming kai Yun, Pei Chai, Pei lin Wang, Peng fei Yin, Wen gui Xu, Xian chao Huang, Xiao yue Gu, Zhi ming Zhang

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Amadeo Iborra, Ana Carmen Pardo, Antonio Soriano, Antonio Javier Gonzalez, Carlos Vazquez, Efren Crespo, Filomeno Sanchez, Jose Maria Benlloch, Juan Pablo Rigla, Julio Barbera, Laura Moliner, Liczandro Hernandez, Luis Caballero, Luis Fernando Vidal, Maria Jose Rodriguez-Alvarez, Michael Seimetz, Pablo Eloy Conde, Pablo Jesus Bellido, Vicente Carrilero

M11-7: Performance Evaluation of a Transformable Axial-Shift Type Single-Ring OpenPET

Eiji Yoshida, Hideaki Haneishi, Hideaki Tashima, Taiga Yamaya, Tetsuya Shinaji

M11-8: A Dedicated PET System for Human Brain and Head/Neck Imaging

Shuping Xie, Wangxin Yu, Zhiguang Wang

M11-9: Performance Evaluation of GAPD-Based Brain PET

Hyeok-jun Choe, Jin Ho Jung, Jiwoong Jung, Ki Chun Im, Sangsu Kim, Yong Choi

M11-10: Design and Development of a Gapless Ring with Modular PMT-Quadrant-Sharing Detector (PQS) for a Time-of-Flight PET Camera

Chao Wang, Hongdi Li, Hossain Baghaei, Rocio Ramirez, Shaohui An, Shitao Liu, Wai-Hoi Wong, Yun Dong, Yuxuan Zhang

M11-11: A Proposed Helmet-PET with a Jaw Detector Enabling High-Sensitivity Brain Imaging

Hideaki Tashima, Hiroshi Ito, Taiga Yamaya

M11-13: Studies of a 3D PET Detector with Wavelength Shifting Fibers

Daisuke KUMOGOSHI, Hideyuki Kawai, Hiroshi ITO, Keiichi MASE, Makoto TABATA, Munetaka Nitta, Satoshi KODAMA, Seitaro Suzuki, Shutaro IIJIMA, Soorim HAN

M11-14: PMT Based Pentagon and Hexagon Detector Module Designs for Convex Polyhedron PET Systems

Dong Du, Han Shi, JianFeng Xu, Qiyu Peng

M11-17: Optical Simulation of a DOI Detector with a Stack of Planer Scintillators

Akane Gondo, Eiji Yoshida, Fumihiko Nishikido, Hideaki Haneishi, Hideaki Tashima, Naoko Inadama, Taiga Yamaya, Tetsuya Shinaji, Yoshiyuki Hirano

M11-18: Scintillation Crystal Side-Readout with SiPMs for Improved Time Resolution

Craig S Levin, Jung Yeol Yeom, Matthew F Bieniosek

M11-19: Evaluation of Imaging Modules Based on SensL Array SB-8 for Nuclear Medicine Applications (\$)

Alexander V Stolin, James Proffitt, Raymond R Raylman, Stan Majewski

M11-20: Analyzing the Stability of 256 APDs Through Leakage Current and Temperature Monitoring in a 1 mm³ Clinical PET System (+)

Arne Vandenbroucke, Craig S. Levin, David F. C. Hsu, David L Freese, Derek Innes, Frances W. Y. Lau, Paul D. Reynolds

M11-21: An evaluation of three-dimensional imaging by use of Si/CdTe Compton cameras (\$)

Hirofumi Shimada, Hirokazu Odaka, Kazuo Arakawa, Kota Torikai, Mitsutaka Yamaguchi, Motohide Kokubun, Naoki Kawachi, Shin Watanabe, Shin'ichiro Takeda, Shu Fujimaki, Tadayuki Takahashi, Takashi Nakano, Tomihiro Kamiya, Yuto Nagao

M11-22: Multi-Head Gamma Camera System with CdZnTe Semiconductor Detectors (')

Hirofumi Fujii, Izumi O Umeda, Koichi Ogawa, Takanori Donai, Yuta Ichimura

M11-23: Time Mark Estimators for MD-SiPM and Impact of System Parameters (*)

Edoardo Charbon, Esteban Venialgo, Shingo Mandai

M11-24: Fast and Unbiased 3D Calibration Method of Arbitrary Scintillator Based PET Detectors (,)

David Schug, Fabian Kiessling, Volkmar Schulz

M11-25: Evaluation of Depth of Interaction Measurements Using Discrete Crystal Arrays and Digital Silicon Photomultipliers () &

Adrienne L Lehnert, Robert S. Miyaoka, Tom K. Lewellen, William C.J. Hunter

M11-26: Characterization of Count Loss and Energy Resolution of a Finely Pixilated Detector Block Using a Digital Silicon Photomultiplier Array (#5)

Andrew L Goertzen, Christopher J Thompson, Fabrice Retiere, Greg Stortz, Jonathan D Thiessen, Matthew D Walker, Piotr Kozlowski, Shams Ehsan, Vesna Sossi, Xuezhu Zhang

M11-27: Statistical Moments of Scintillation Light Distribution Using Digital-SiPMs and Monolithic Black Painted Crystals ())

Amadeo Iborra, Antonio Soriano, Antonio J Gonzalez, Efrn Crespo, Filomeno Sanchez, Jose M Benlloch, Juan P Rigla, Laura Moliner, Liczandro Hernandez, Luis F Vidal, Mara J Rodriguez, Michael Seimetz, Pablo Bellido, Pablo Conde

M11-28: PET Scintillator Arrangement on Digital SiPMs () -

Andreas Erven, Christian Peters, Guenter Kemmerling, Holger Noeldgen, Liubov Jokhovets, Matthias Streun, Michael Ramm, Nils Schramm, Peter Wuestner, Radoslaw Marcinkowski, Samuel Espana, Stefaan Vandenbergh, Stefan van Waasen

M11-31: High Probability Crystal Pin Identification in Scintillator Matrix-Based PET Detector with a Prototype Digital SiPM (*)

Balazs Jatekos, Eموke Lorincz, Ferenc Ujhelyi, Gabor Erdei

M11-33: Investigation of Silicon Photomultipliers for Use in Preclinical Tomographs with BGO Arrays (*) +

Arion F Chatziioannou, David L Prout, Y Valenciaga, Zheng Gu

M11-36: Initial Imaging Results from a High-Resolution Time-of-Flight PET Detector Designed

for Dedicated Breast Imaging ^{***} +%

Benjamin LeGeyt, Joel S Karp, Madhuri Kaul, Matt Werner, Srilalan Krishnamoorthy, Suleman Surti

M11-38: Development of Compact Readout Electronics and Efficient Maximum Likelihood Position Estimator for Multi-Anode-PMT Scintillation Cameras ^{***} ++

Cheng-Ying Chen, Ming-Wei Lee, Yi-Chun Chen, Yu-Lin Lee

M11-39: Simulation Studies of a Phoswich PET Detector Design with a Two-Fold Improvement in Spatial Sampling ^{***} , \$

Andrew L. Goertzen, Christopher J. Thompson, Jonathan D. Thiessen, Xuezhong Zhang

M11-42: Performance Evaluation of the Inveon PET Scanner Using GATE Based on the NEMA NU-4 Standards ^{***} , (

Arman Rahmim, Jianhua Ma, Jing Tang, Lijun Lu, Nicolas Karakatsanis, Wufan Chen, Yanjiang Han, Zhaoying Bian

M11-44: Electronics Upgrade and Crystal Geometry Optimization for a Sub-Millimeter Small Animal PET Based on Continuous Crystals and SiPMs ^{***} , ,

Ane Etxebeste, Carles Solaz, Carlos Lacasta, Gabriela Llosa, John Barrio, Jorge Cabello, Josep F. Oliver, Magdalena Rafecas, Vera Stankova

M11-46: Design and Development of PETiPIX: an Ultra High Spatial Resolution Small Animal PET Scanner ^{***} - &

Anatoly B Rosenfeld, Brian Hutton, Daniel R Franklin, Kaiyang Li, Marco Petasecca, Michael L.F Lerch, Mitra Safavi-Naeini, Susanna Guatelli

M11-49: 3D Molecular Breast Imaging Using a High-Resolution Dedicated Cardiac SPECT Camera ^{***} - *

Albert J. Sinusas¹, Chi Liu, Chung Chan, Hui Liu, Peter L. Kench, Shi Wang, Tianyu Ma, Yaqiang Liu, Yariv Grobstein

M11-50: Wavelength-Shifting Fibre Gamma Camera with SiPMs: First Small Animal Tests ^{***} (\$ \$

A. Combo, Ana C Santos, Antonio JD Soares, Fernando Muchacho, Ismael FC Castro, Joao FCA Veloso, Lus M Moutinho, Miguel A Ferreira, Rodrigo Ferreira

M11-52: Animal SPECT Imaging on a Shared PET/SPECT Ring Detector with Elliptical-Pinhole Collimator ^{***} (\$*

Feng He, Guanghua Gong, Jianping Cheng, Jing Wu, Nianming Jiang, Shi Wang, Si Chen, Tianyu Ma, Yaqiang Liu

M11-56: A Whole Body Mouse Sized μ SPECT Image Quality Phantom ^{***} (%\$

Bert Vandeghinste, Jeroen Verhaeghe, Roel Van Holen, Sigrid Stroobants, Stefaan Vandenberghe, Steven Deleye, Steven Staelens

M11-59: Preliminary Results of an Automatic Channel Fault Detection System on a Small Animal APD-Based Digital PET Scanner ^{***} (%)

Charles-Antoine Brunet, Jean-Francois Beaudoin, Jonathan Charest, Jules E. Cadorette, Rejean Fontaine, Roger Lecomte

M11-60: Energy Window Optimization of PET Detectors for SPECT Imaging ^{***} (%+

Jean-Francois Beaudoin, Jules Cadorette, Roger Lecomte, Rutao Yao

M11-61: Achieving 0.4-mm FWHM Spatial Resolution with an RPC-Based Small-Animal PET

Prototype

Alberto Blanco, Grzegorz Korcyl, Jan Michel, Luís Lopes, M F. Ferreira Marques, Marcin Kajetanowicz, Marek Palka, Michael Traxler, Paulo Crespo, Paulo Fonte, Paulo Martins, Paulo M. Gordo, Rui Ferreira Marques

M11-62: Reconstruction of Crystal Stack Orientations Using Line-Source Measurements in PET

Andre Frank Salomon, Rene Botnar, Torsten Solf, Volkmar Schulz

M11-64: The Multi-Source Instant CT for Superfast Imaging: System Concept, Reconstruction Algorithms and Experiments

Liang Li, Xin Jin, Zhiqiang Chen

M11-66: Quality of Micro-CT Images Acquired from Simultaneous Micro-CT and Benchtop X-Ray Fluorescence Computed Tomography (XFCT) Scanning: a Preliminary Monte Carlo Study

Nivedh Manohar, Sang Hyun Cho

M11-69: Partial Volume Effect of Different Thickness, Inner Diameter and Positron Range in Small Animal Cardiac PET Imaging

Franz Kaiser, George S.K Fung, Kazuhito Fukushima, Min Jae Park, Takahiro Higuchi, Tomohiko Yamane

M11-70: Demonstration of Motion Correction for PET-MR with PVA Cryogel Phantoms

Bjoern Weissler, Charalampos Tsoumpas, Christoph Lerche, Georgios M Soutanidis, Irene Polycarpou, Jane E Mackewn, Paul K Marsden, Richard Ayres, Volkmar Schulz

M12 Other Imaging Technologies I / Multi-Modality Systems

M12-1: Design, Development and Performance Evaluation of CT Imaging in Inlview 3000 Animal PET/SPECT/CT System

Hui Liu, Nianming Jiang, Shi Wang, Si Chen, Tianyu Ma, Wei Wang, Xiao Xiong, Xiaoming Huang, Yaqiang Liu

M12-3: Simulated Dental Cone Beam Computed Tomography Using Timepix

Josef Uher, Seung H Baek

M12-4: DentiiScan: the First Cone-Beam CT Scanner for Dental and Maxillofacial Imaging Developed in Thailand

Jartuwat Rajruangrabin, Pairash Thajchayapong, Pasu Sirisalee, Pinyo Yampri, Saowapak S. Thongvigitmanee, Sorapong Aootaphao, Suthasinee Kasemsarn, Tanapon Srivongsa, Vera Sa-Ing

M12-9: In Vitro Photoacoustic Tomography Using LMS Adaptive Filter for Chicken Testicular

Che Hua Yang, Tai Chieh Wu

M12-10: The Performance Evaluation of the Electron Tracking Compton Camera

Atsushi Takada, Hidetoshi Kubo, Hiroyuki Kimura, Shigeto Kabuki, Shinya Sonoda, Shogo Nakamura, Shotaro Komura, Tatsuya Sawano, Tetsuya Mizumoto, Toru Tanimori, Yoshihiro Matsuoka, Yoshitaka Mizumura

M12-13: Dual-Energy CT Composite Images Aiming at Visualization of Acute Cerebral Stroke in Emergency: A Phantom Study

Hidetake Hara, Hiroki Matsuzawa, Hiroshi Muraishi, Hitoshi Satoh, Shinji Abe, Toshiyuki Inoue, Yasuo Nakajima

M12-15: A General Adaptive Decomposition Method for Multi-Energy Spectral CT (* \$

Le Shen, Yuanji Li, Yuxiang Xing

M12-19: Comparison Between Different Methods for Parametric Image Estimation in Analyzer-Based Phase Contrast Images. (* (

Jovan G Brankov, Keivan Majidi, Oriol Caudevilla

M12-22: Comparison of a Photon-Counting-Detector and a CMOS Flat-Panel-Detector for a Micro-CT (* +

Jaegon Kim, Mohammed Hegazy, Soeun Park, Sooyeol Lee

M12-23: Evaluation of CT images in the very low x-ray flux with a photon counting Detector with a CdTe semiconductor (+%

Futoshi Kaibuki, Koichi Ogawa, Mariko Matsumoto

M12-26: Component Separation for Spectral X-Ray Imaging Using the XPAD3 Hybrid Pixel Camera (+)

Alain Bonissent, Christian Morel, Franca Cassol Brunner, Frdric Galland, Mathieu Dupont, Yannick Boursier

M12-27: Analysis of Optimal CT Spectrum for PET Attenuation Correction (, \$

Adam Alessio, Bruno De Man, Evren Asma, Paul Kinahan, Xue Rui, Yong Long

M12-30: An Improved Ring Artifact Removal Approach for Flat-panel Detector Based Computed Tomography Images (, *

Dong Zeng, Jianhua Ma, Jing Huang, Wufan Chen, Yunwan Zhang, Zhaoying Bian

M12-33: Preliminary Study of Optimization-based Image Reconstruction from Patient Dental CT Data (- \$

Budi Kusnoto, Emil Sidky, Junguo Bian, Xiao Han, Xiaochuan Pan, Zheng Zhang

M12-34: Rapid Rabbit: Highly Optimized GPU Accelerated Cone-Beam CT Reconstruction (- '

Eric T Papenhausen, klaus mueller

M12-35: Adaptive L0 Norm Constrained Reconstructions for Sparse-View Scan in Cone-Beam CT (-)

Christine Toumoulin, liezhe xie, limin luo, qing cao, yang chen, yining hu

M12-36: Sparse-View Reconstruction from Restored Low-Dose CT Projections (- -

Chun Jiao, Hong Bing Lu*, Jun Yan Rong, Peng Gao, Qi Mei Liao, Wen Lei Liu

M12-37: Confidence Weighted Dictionary Learning Algorithm for Low-Dose CT Image Processing () \$'

Christine Toumoulin, fei yu, limin luo, luyao shi, qing cao, yang chen, yining hu

M12-38: Feasibility Study on Aperture Based Low-Dose CT () \$+

Byungchul Cho, Sajid Abbas, Seungryong Cho, Taewon Lee

M12-39: Low Dose CT Image Restoration Using a Localized Patch Database () %\$

Klaus Mueller, Sungsoo Ha

M12-40: Development of PET/MRI with Insertable PET for Simultaneous Imaging of Human Brain () %&

Roel Van Holen, Stefaan Vandenberghe

M12-58: EndoTOPPET-US: Towards a Multi-Modal Endoscope for Ultrasound and Time of Flight PET * (

Marco Pizzichemi

M12-59: Development of a Proof of Concept System for Multi-Modal Compatible PET: Flexible PET * -

Hiromichi Tonami, Junichi Ohi, Keishi Kitamura, Masafumi Furuta, Masanobu Sato, Masayuki Nakazawa, Nobuya Hashizume, Tetsuo Furumiya, Tetsuya Kobayashi, Tomoaki Tsuda

M13 Simulation and Modeling

M13-2: Simulation of Triple Coincidences in PET *) +'

Eduardo Lage, Elena Herranz, Esther Vicente, Jacobo Cal-Gonzalez, Joaquin L. Herraiz, Jose M. Udias, Shivang R. Dave, Vicente Parot

M13-3: Impact of PET Crystal Surface Treatment and Calibration Method on DOI Positioning Accuracy: A Simulation Study *) ++

Kui Ying, Peng Fan, Shi Wang, Tianyu Ma, Yaqiang Liu, Zhenlei Lv

M13-4: Simulation Study of the DOI-PEM Scanner *) , %

Fumiyoshi Kajino, Shigeharu Kobayashi, Tokonatsu Yamamoto

M13-10: A New Design of Neuro-PET Improving Sensitivity *) ,)

Hanback Shin, Jin Ho Jung, Yong Choi, Yoonsuk Huh Huh

M13-13: Generation of Whole-Body Scintigraphic Images with New GATE Output Capacities *) , ,

Daphne Villoing, Erin McKay, Henri Der Sarkissian, Ludovic Ferrer, Manuel Bardies, Marc Poirot, Marie-Paule Garcia

M13-14: Image-Quality Effects of System-Matrix-Formation Statistics in SPECT Iterative Reconstruction *) - %

John Strologas, Scott Metzler, Wei Chang, Xiaofen Zheng

M13-17: Evaluation of the Local Shift-Invariance Approximation in Pinhole SPECT *) -)

Bert Vandeghinste, Lara R. V. Pato, Roel Van Holen, Stefaan Vandenberghe

M13-18: Configuration Optimization for Multi-Pinhole Micro-SPECT Systems by Signal Detection Tasks and System Performance Evaluations * * \$ &

Ming-Wei Lee, Wei-Tso Lin, Yi-Chun Chen

M13-19: Effect of Collimator Design and Anode Dimensions on Gamma-Cameras Based on Pixelated CdZnTe * * \$)

Dimitra G Darambara, Marios E Myronakis, Marketa Zvelebil

M13-20: Design and Evaluation of a Breast Specific Collimator Using Response Surface Methodology and Monte Carlo Simulations * * \$,

Albert Guvenis, Didar Talat

M13-22: A Fast and Hardware Mimicking Analytic CT Simulator * * * %

Arman Rahmim, Hamid Soltanian-Zadeh, Hossein Ghadiri, Mohammad Bagher Shiran, Mohammad Reza Ay

M13-23: Breast CT Image Simulation Framework for Optimisation of Lesion Visualisation *** %

Kevin Wells, Matthew C Veale, Matthew D Wilson, Oliver Diaz, Paul Seller, Premkumar Elangovan, Robert Cernik, Shirin Enshaeifar, Silvia Pani

M13-24: Neutron Stimulated Emission Computed Tomography for Brain Cancer Imaging *** &

Anuj Kapadia, Dong Joo Rhee, Greeshma Agasthya

M13-26: Numerical Investigation of a Non-Interferometric Grating-Based X-Ray Imaging System *** &

Li Zhang, Ran Zhang, Zhiqiang Chen

M13-27: An Approach to System Optimization for X-Ray Photon-Counting Systems Using Performance on a Detection/Localization Task *** ' %

Gene Gindi, Hao Zhang, Yihuan Lu, Zhengrong Liang

M13-28: A Wide Fan-beam Dual-energy X-ray Absorptiometry for Forearm *** ')

Chan Li, Liang Li, Zhiqiang Chen

M13-29: A Software Tool for on Field Spectrometry of Diagnostic X-Ray Beams *** ' -

Giuseppe Baldazzi, Lucia Andreani, Luigi Pio Rignanese, Marco Bontempi, Mirco Zuffa, Pier Luca Rossi

M13-30: A digital reference object for the 3D Hoffman brain phantom for characterization of PET neuroimaging quality *** ((

Adam M Alessio, Andrea Hawkins-Daarud, Brian F Elston, Darrin Byrd, Joshua Jacobs, Kristin R Swanson, Mark Muzi, Pamela R Jackson, Paul E Kinahan, Robert L Harrison, Russell C Rockne

M13-31: Characteristics of Bremsstrahlung Emissions from Radionuclide Therapy Isotopes *** (,

Anna Celler, Bozena Birkenfeld, Carlos F Uribe, Dariusz Pawlak, Hanna Piwowarska-Bilska, Pedro L Esquinas, Renata Mikolajczak

M13-32: Effect of Noise Level, Administered Activity and Body Habitus on Detection of Renal Function Defect in Pediatric Diagnostic Imaging of 99mTc-Dimercaptosuccinic Acid ***) %

Eric C. Frey, George Sgouros, S T. Treves, Taek-Soo Lee, Wesley E. Bolch

M13-33: A Realistic Digital Phantom for Perfusion C-Arm CT Based on MRI Data ***))

Andre Aichert, Andreas Maier, Anrd Doerfler, Bharath K Navalpakkam, Jana Hutter, Joachim Hornegger, Michael Manhart, Robert Grimm

M14 New Detector Materials and Technologies / SPECT Instrumentation

M14-2: Performance of a Novel, Small-Cell, High-Fill-Factor SiPM for TOF-PET ***) +

Alberto Gola, Alessandro Ferri, Alessandro Tarolli, Claudio Piemonte, Nicola Serra, Nicola Zorzi

M14-3: Effects of DCR, PDP and Saturation on the Energy Resolution of Digital SiPMs for PET *** * \$

David Stoppa, Leo H. C. Braga, Matteo Perenzoni

M14-5: Evaluation of a Compact, General-Purpose Germanium Gamma Camera *** * (

Desmond L Campbell, Ethan Hull, Todd E Peterson

M14-6: Preliminary Investigation of Imaging Properties for Sub-Millimeter Square-Pinholes *** + \$

Dan Xia, M-A Park, S. C. Moore, S. D. Metzler

M14-7: Performance Characterisation of a Compact SPECT Detector Based on dSiPMs and Monolithic LYSO *** +)

Carmen Bouckaert, Karel Deprez, Roel Van Holen, Samuel Espana, Stefaan Vandenberghe

M14-8: Artificial Compound-Eye Gamma Camera for MRI Compatible SPECT Imaging *** , \$

Ling-Jian Meng, Xiao-Chun Lai

M15 Image Reconstruction II

M15-1: Constrained Nonconvex TpV-Minimization for Image Reconstruction with Extremely Sparse Projection View Sampling in CT *** , +

Emil Y. Sidky, Rick Chartrand, Xiaochuan Pan

M15-3: A Comparison Study of Total Variation Stokes Strategy for Low-Dose CT Image Reconstruction *** - \$

Hao Zhang, Hongbing Lu, Ke Wang, William Moore, Yan Liu, Zhengrong Liang

M15-4: Low-Dose Limited View 4D CT Reconstruction Using Patch-Based Low-Rank Regularization *** - *

Jong Chul Ye, Kyung Sang Kim

M15-5: Metal Artifact Reduction Based on Multi-Level Sinogram Segmentation and Sequentially Applied MAP-EM Reconstruction Method ***+\$\$

Defne Us, Ulla Ruotsalainen, Uygur Tuna

M15-7: MRI Guided Myocardial Perfusion PET Image Reconstruction ***+)\$

Arman Rahmim, Jing Tang, Lijun Lu, Nikolas A Karakatsanis, Xinhui Wang

M16 Emission Tomography Instrumentation 2 / Front End and Data Acquisition Electronics

M16-4: Optimizing Collimator Resolution/Sensitivity in SPECT Iterative Reconstruction ***+)\$-

John Strologas, Scott Metzler, Wei Chang, Xiaofen Zheng

M16-6: A Dual-Head Multi-Pinhole Collimator Design for Stationary Clinical Myocardial Perfusion SPECT Imaging ***+)%

Benjamin M.W. Tsui, Chin-Hong Si, Greta S.P. Mok, Pengyu Yan

M16-9: Producing Artifact-Free Projection Overlaps with Baffles ***+)%*

Jianguo Lin

M16-11: Online Parameter Calibration for Energy Discrimination in Trans-PET ***+)&&

Jun Zhu, Ming Niu, Peng Xiao, Qingguo Xie, Xiaoke Wu, Zhihao Hu

M16-14: Sensitivity Booster for DOI-PET by Utilizing Compton Scattering Events Between Detector Blocks ***+)&)

Eiji Yoshida, Hideaki Tashima, Taiga Yamaya

M16-15: Simulation of Sensitivity and NECR of Entire-Body PET Scanners for Different FOV Diameters ***+)& ,

Eiji Yoshida, Ismet Isnaini, Taiga Yamaya, Takashi Obi

M16-17: Data completeness in multiplexing multi-pinhole SPECT ***+' %

Christian Vanhove, Karen Van Audenhaege, Roel Van Holen, Stefaan Vandenberghe

M16-19: PET Timing Performance Measurement Method Using NEMA NECR Phantom

Bin Chung Jimmy Wang, Huini Du, Jeffrey Kolthammer, Karthik Balakrishnan, Kent Burr, Xiaofeng Niu, Xiaoli Li

M16-22: Imaging Performance of the BNL PET Imaging System for Plant Science

Benjamin A Babst, Craig L Woody, David J Schlyer, Jack Fried, Martin L Purschke, Michael Budassi, Paul Vaska, Richard A Ferrieri, Sean P Stoll

M16-24: 3D Printing for Cost-Effective, Customized, Reusable Multi-Modality Imaging Phantoms

Brian J Lee, Craig S Levin, Matthew F Bieniosek

M16-25: Non-Uniform Gamma Ray Event Distribution in Regionalized PET Detector

Chang Lyong Kim, McDaniel L David, Mikiko Ito

M16-26: Production of Positron-Gamma Emitters for Multiplexed PET (mPET) Imaging &

Angel Munoz-Martin, Eduardo Lage, Joaquin L. Herraiz, Jose M. Udias, Juan J. Vaquero, Luis M. Fraile, Shivang R Dave, Vicente Parot

M16-27: Production of Moly-99 at Low Power Nuclear Research Reactors

C. Rangacharyulu, Christine K. Roh, Sarayut Phonapha, Teerasak Veerapaspong

M16-28: ^{176}Lu Effect on the Minimum Detectable Activity Limits for a Dual Head, LSO:Ce Based, PET System

George Loudos, George Panayotakis, Nicolas A Karakatsanis, Nikos Efthimiou

M16-29: Graphical User Interface for Yields and Doses for Cyclotron Tc-Production &

Anna Celler, Francois Benard, Ken Buckley, Milan Vuckovic, Paul Schaffer, Thomas Ruth, Xinchou Hou

M16-30: Assessment of Dedicated Brain PET Designs with Different Geometries

Dong Du, Han Shi, JianFeng Xu, Qiyu Peng

M16-32: Optical Encoding and Multiplexing of Detector Signals with Dual Threshold Time-over-Threshold

Alexander M. Grant, Craig S. Levin

M16-33: A Pulse Width Modulation Readout Method for Densely Packed Solid State Photodetectors

Craig S Levin, Key Jo Hong, Matthew F Bieniosek

M16-34: Empirical Bayesian Energy Estimation for Multi-Voltage Threshold Digitizer in PET

Qingguo Xie, Zhenzhou Deng

M16-36: Enhanced MVT Digitizer in PET, %

Chen Zeng, Daoming Xi, Qingguo Xie, Wei Liu, Xiang Liu

M16-38: A 16-Channel FPGA-Based Time-to-Digital Converter for Pulse Width Modulation Circuitry for Silicon Photomultiplier Readout

Craig S. Levin, Ealgoo Kim, Key Jo Hong, Matthew F Bieniosek

M16-40: High-Resolution Multichannel Time-to-Digital Converter Core Implemented in FPGA

for ToF Measurements in SiPMs Based PET Systems.

Albert Aguilar, Antonio J. Gonzalez, Filomeno Sanchez, Jesus Soret, Jose Torres, Jose M. Benlloch, Julio Martos, Liczandro Hernandez, Pablo Conde, Raimundo Garcia-Olcina

M16-41: An Improved Method of FPGA-Based TDC for Time-of-Flight PET

Daehoon Kim, Sangwon Lee, Yong Choi

M16-42: A PET Detector Interface Board and Slow Control System Based on the Raspberry Pi

Andrew L Goertzen, Christopher J Thompson, Daryl Bishop, E Shams, Fabrice Retiere, Greg Stortz, Jonathan D Thiessen, Piotr Kozlowski, Vesna Sossi

M16-45: Development of a New Position Decoder Circuit for PET Consisting of GAPD Arrays to Recover Inter-Crystal Scattered Events

Gibeom Kim, Hyeok-jun Choe, Jin Ho Jung, Yong Choi

M16-46: Read-Out Electronics for Digital Silicon Photomultiplier Modules

Andreas Erven, Antonia Chlubek, Ben Zwaans, Carsten Degenhardt, Christian Peters, Guenter Kemmerling, Holger Noeldgen, Liubov Jokhovets, Louis Meessen, Matthias Streun, Michael Ramm, Oliver Muelhens, Peter Wuestner, Ralf Dorscheid, Siegfried Jahnke, Stefan van Waasen, York Haemisch

M16-47: Low Intensity Fluorescence Light Measurements Using Silicon Photomultiplier with Dedicated Front-End ASIC

Dorota Pijanowska, Lukasz Mik, Mateusz Baszczyk, Piotr Dorosz, Rafal Szczypinski, Sebastian Glab, Wojciech Kucewicz

M16-48: Evaluation of the FlexToT ASIC on the Readout of SiPM Matrices and Scintillators for PET

Albert Comerma, David Gascon, Gustavo Martinez, Iciar Sarasola, Javier Castilla, Jesus Marin, Jose Manuel Cela, Jose Manuel Perez, Jose Maria Fernandez-Varea, Lluís Freixas, Lluís Garrido, Pedro Rato-Mendes

M16-49: EndoTOFPET-US DAQ, Designing the Data Acquisition System of a High Resolution Endoscopic PET-US Detector

Carlos Zorraquino, Catarina Ortigo, Joao Varela, Jorge Neves, Jose Carlos Silva, Manuel Rolo, Ricardo Bugalho, Rui Silva, Stafaan Tavernier, Viesturs Vecklans

M16-50: FPGA Based Multi-Channel Data Acquisition System for Prototype in-Beam PET

Eungi Min, Hakjae Lee, Hyun-Il Kim, Jinhun Joung, Kwangdon Kim, Seungbin Bae, Su Jung An, Yong Hyun Chung, Yongkwon Kim

M16-52: Design of Data Acquisition System to Reduce Count Rate Losses in a PET Scanner

David L McDaniel, Jim E Widen, Leonid V Romanov, Paul F Holtermann

M16-53: Characterization of PET Data Acquisition System with Compressed Sensing Detectors

Chen-Ming Chang, Craig S Levin, Ealgoo Kim, Key-Jo Hong, Peter D Olcott

M16-55: A High Resolution Event Positioning Circuit and Data Acquisition System for Preclinical PET

Jihoon Kang, Sangwon Lee, Yong Choi

M16-56: A TOF PET Detector Development Using Waveform Sampling and Strip-Line Based Data Acquisition

Anatoly Ronzhin, Chien-Min Kao, Chin-Tu Chen, Erik Ramberg, Heejong Kim, Pavel Murat, Sergey Los,

Stan Majewski

M16-57: 20-24bit Ultra-High Resolution Parallel Readout Photon Counting ASIC for Hybrid X-Ray Detectors , ')

Areum Han, Jun Ho Park, Keun Sung Hong, Myung Jin Soh, Seul Yi Soh, Young Jae Kim

M16-58: SENSROC5: a 16-Channel Radiation-Hardness Low-Noise Front-End ASIC Dedicated to CZT Detectors for X-Ray and γ -Ray Imaging Applications , (\$

Deyuan Gao, Tingcun Wei, Wu Gao, Yann Hu

M17 Image Reconstruction Methods I

M17-2: Impact of Out-of-Field Activity in MLAA Estimation of Lung Attenuation for PET/MR , ()

André F. Salomon, Fabian Kiessling, Volkmar Schulz, Yannick Berker

M17-4: A Line Process Approach to Penalized Maximum-Likelihood Reconstruction for 3D SPECT , (-

Jens Gregor, Lloyd Arrowood, Sanghyeb Lee

M17-5: Comparison of Numerical Convergence Speeds of Convergent and Accelerated Algorithms for Penalized Likelihood PET Image Reconstruction ,) '

Evren Asma, Lishui Cheng, Ravindra Manjeshwar, Sangtae Ahn

M17-6: Direct Reconstruction of CT-Based Attenuation Correction Images for PET with Cluster-Based Penalties ,) +

Adam M. Alessio, Bruno De Man, Evren Asma, Paul E. Kinahan, Soo Mee Kim

M17-7: A Penalized Weighted Least-Squares Image Reconstruction based on Scatter Correction Methods for X-ray CT , * %

Long CHEN, Nicolas GAC, Thomas RODET

M17-8: Structural Prior Enhanced Compressed Sensing for CT Reconstruction with Incomplete Data , * (

Le Shen, Xin Jin, Yuxiang Xing

M17-9: Wavelet-Based Regularization Strategies Within the 3D List-Mode MLEM Reconstruction Process, for High Resolution Small Animal PET Data , * -

Humberto de J. Ochoa Dominguez, Jose M. Meja Munoz, Leticia Ortega Maynez, Osslan O. Vergara Villegas, Vianey G. Cruz Sanchez

M17-11: Optimization of Regularization Parameter in a Reconstruction Algorithm , ++

Debasis Mitra, Grant T. Gullberg, MAHMOUD ABDALAH, Rostyslav Boutchko, Shi Chen

M17-12: Dynamic PET Image Reconstruction Using a Spatial-Temporal Edge-Preserving Prior , , %

Hua Zhang, Jianhua Ma, Jing Huang, Lijun Lu, Wufan Chen, Zhaoying Bian

M17-13: A Mathematical Proof of a Noise Weighted FBP Reconstruction Algorithm , ,)

Gengsheng Lawrence Zeng, Ya Li

M17-14: Effect of Subsets on Bias and Variance in Low-Count Iterative Reconstruction , , +

Richard E Carson, Yiqiang Jian

M17-15: Variance Prediction in SPECT Reconstruction Based on the Fisher Information Using a

Novel Angular Blurring Algorithm for Computation of the System Matrix, - %

Alexandre Bousse, Brian F Hutton, Debora Salvado, Kjell Erlandsson, Niccolo Fuin

M17-16: Asymptotic Behaviour of the Singular Values for the Truncated Hilbert Transform, - +

Alexander Katsevich, Michel Defrise, Reema Al-Aifari

M17-18: Statistical Sinogram Restoration for SPECT - %

Hao Han, Hao Zhang, Jing Wang, Junhai Wen, Yan Liu, Zhengrong Liang

M17-19: A Multigrid Approach to ML Reconstruction in PET: A Fast Alternative to EM-Based Techniques. - \$)

Finbarr O'Sullivan, Liam O'Suilleabhain

M17-20: Effect of Noise in CT Image Reconstruction Using QR-Decomposition Algorithm - %\$

Amadeo Iborra, Antonio Gonzalez, Antonio Soriano, Efren Crespo, Filomeno Sanchez, Francisco Martos, Jose Maria Benlloch, Juan Pablo Rigla, Laura Moliner, Liczandro Hernandez, Luis Fernando Vidal, Maria-Jose Rodriguez-Alvarez, Michael Seimetz, Pablo Bellido, Pablo Conde

M17-21: Iterative TV Reconstruction Vs. Weighted FBP Reconstruction - %&

Alex Zamyatin, Gengsheng Lawrence Zeng

M17-22: 3D Anisotropic Total Variation Method for Limited-Angle CT Reconstruction - %*

Liang Li, Yao Yang, Zhiqiang Chen

M17-23: Limited Angle Reconstruction with Two Dictionaries - &\$

Meng Cao, Yuxiang Xing

M17-24: Joint Reconstruction of Low-Rank and Sparse Components from Undersampled (k, t)-Space Small Bowel Data - &(&

Alex Menys, Benjamin Tremoulheac, David Atkinson, Nikolaos Dikaios, Simon ARRIDGE, Valentin Hamy

M17-25: CT Reconstruction from Few-Views by Edge Guided TV Minimization - &-

Chun Jiao, Hongbing Lu, Junyan Rong, Peng Gao, Qimei Liao, Wenlei Liu

M17-26: Low-Dose GraphicProcessing-Unit Based Limited-Angle CT Reconstruction Algorithm Development for a Home-Made Dual Modality Micro-FT/CT System - ' &

Jyh-Cheng Chen, Shih-Chun Jin

M17-27: Spatially Variant Resolution Modelling for Iterative List-Mode PET Reconstruction - ' -

Johan Nuyts, Lin Zhou, Matthew G Bickell

M17-28: Comparison of Depth of Interaction Encoding and Resolution Modelling Image Reconstruction in High Resolution PET Imaging - ()

Christopher Kobylecki, Fotis A. Kotasidis, Georgios I. Angelis, Jose M Anton-Rodriguez, Julian C. Matthews, Peter J. Julyan, Philip J. Noonan

M17-29: Isotope Specific Resolution Modelling Image Reconstruction for High Resolution PET Imaging -) %

Andrew J Reader, Fotis A Kotasidis, Georgios I Angelis, Habib Zaidi, Jose M Anton-Rodriguez, Julian C Matthews

M17-30: High Density Forward Projector for Spatial Resolution Improvement -) (

Alexander A Zamyatin, Satoru Nakanishi, Yongsheng Pan, Zhi Yang

M17-31: Polygonal Pixel Grid Based PET Image Reconstruction Algorithm: Development, Application and Performance Comparison

Kui Ying, Shi Wang, Tianyu Ma, Wei Wang, Yan Xia, Yaqiang Liu, Yunhan Yu

M17-32: Image Reconstructions from Super-Sampled Data Sets in PET Imaging

Samuel Matej, Scott D. Metzler, Yusheng Li

M17-35: LOR-Based Reconstruction for Super-Resolved 3D PET Image

Il Jun Ahn, Ji Hye Kim, Jong Beom Ra, Woo Hyun Nam, Yongjin Chang

M17-36: Accurate Image Reconstruction Based on Gaussian Model Fitted System Matrix in Multi-Pinhole Small Animal SPECT Imaging

Hui Liu, Qingyang Wei, Shi Wang, Tiantian Dai, Tianyu Ma, Xingdong Li, Yaqiang Liu

M17-37: Improved Area-Simulating-Volume Method for 3D X-Ray CT Re-Projection and Back-Projection Operations

Hongbing Lu, Yan Liu, Yi Fan, Zhengrong Liang

M17-38: Incorporation of Time-of-Flight Information in PET List-Mode Reconstruction Using a Projector with Accurate Detector PSF Modeling

Awen Autret, dimitris visvikis, Julien Bert, olivier strauss

M18 Data Corrections and Quantitative Imaging I / Signal and Image Processing

M18-2: A Study of Resolution Recovery Performed in Projection-Space and Image-Space for a High Resolution Small Animal PET Scanner

Hongdi Li, Hossain Baghaei, Rocio A Ramirez, Wai-Hoi Wong, Yuxuan Zhang

M18-3: Motion Compensated 4D PET-CT-MR Image Generation for Respiratory Synchronized Multi-Modal Image Display

Il Jun Ahn, Ji Hye Kim, Jong Beom Ra, Woo Hyun Nam, Yongjin Chang

M18-4: Robustness of Recursive Bayesian Estimation of Respiratory Motion with Inter-Cycle Variation

Ashrani Aizzuddin Abd. Rahni, Emma Lewis, Kevin Wells

M18-6: Non-Rigid Respiratory Motion Correction for 4D Gated PET Sinogram Data

Benjamin MW Tsui, Tao Feng

M18-7: Count-Based Listmode Respiratory Motion Detection for Quantitative PET

Dimitre H Hristov, Keum Sil Lee

M18-8: Toward a Framework for High Resolution Parametric Respiratory Motion Modelling

Cliff Lindsay, John Jones, Kevin Wells, Michael King, Paul Dasari, Rhodri L Smith

M18-10: Improvement in Motion Correction Technique for microPET Brain Imaging

Andre Kyme, Johan Nuyts, Lin Zhou, Matthew Bickell, Roger Fulton

M18-11: Reducing Event Losses in Sinogram-Based PET Motion Correction by Extending the Axial Field of View

Andre Kyme, Roger Fulton, Steven R Meikle, Victor W Zhou

M18-13: Motion-Corrected Planar Projection Imaging for Awake and Freely Moving Small Animals

Andre Z Kyme, Frederic Boisson, Georgios I Angelis, Roger R Fulton, Steven R Meikle, William J Ryder

M18-14: Using ITK to Obtain Motion Transform in Anatomically Guided PET Motion Correction for Simultaneous PET/MR

Ju-Chieh (Kevin) Cheng, Richard Laforest

M18-16: Experimental Measurement of Human Head Motion by Binocular Stereo Vision Method

Jiawei Xia, Liang Li, Zhihui Guo

M18-17: Using PCA to Detect Head Motion from PET List Mode Data

Joel Dunn, Kris Thielemans, Paul Schleyer, Paul K Marsden, Ravindra M Manjeshwar

M18-18: Left Ventricular Heart Phantom for Wall Motion Analysis

Andreas Konrad Maier, Bastian Bier, Chris Schwemmer, Guenter Lauritsch, Joachim Hornegger, Kerstin Mueller, Peter Fischer, Rebecca Fahrig

M18-20: Random Correction Using Large Coincidence Window for the Clear-PEM System

Catarina Ortigao, Claudia S Ferreira, Joao Varela, Joerg Peter, Liji Cao, Ricardo Bugalho

M18-21: Evaluation of the Novel 3D SPECT Modelling Algorithm in the STIR Reconstruction Framework: Simple Vs. Full Attenuation Correction

Berta Marti, Carles Falcon, Charalampos Tsoumpas, Domenec Ros, Kjell Erlandsson, Kris Thielemans, Lefteris Livieratos

M18-22: Attenuation Correction for a Generalized Scatter Reconstruction Algorithm in PET

Hongyan Sun, Stephen Pistorius

M18-23: Quantitative Bias in PET/MR from Attenuation Correction and Reconstruction: a Comparison with PET and PET/CT with an Anatomical Brain Phantom and Hoffman Brain Phantom

Jani Linden, Jarkko Johansson, Jarmo Teuvo, Mika Teras, Tuula Tolvanen, Virva Saunavaara

M18-24: Effects of MR-Invisible Objects and Subject Attenuation Correction on PET Quantification in Small Animal PET/MR Imaging

Bernd J Pichler, Chih-Chieh Liu, Frederic Mantlik, Hans Wehrl, Ilja Bezrukov, Mosaddek Hossain

M18-25: Performance Evaluation of Interpolated Average CT for PET Attenuation Correction in Different Lesion Characteristics

Cobie Ho, Greta Mok, Tao Sun, Tung Hsin Wu

M18-26: Calculated Attenuation Correction for Awake Small Animal Brain PET Studies

Andre Z Kyme, Georgios I Angelis, Johan Nuyts, Lin Zhou, Matthew Bickell, Roger R Fulton, Steven R Meikle, William J Ryder

M18-27: Scatter and Attenuation Corrections for a PEM Detector Using List-Mode OSEM

Catarina Ortigao, Claudia S. Ferreira, Joao Varela, Liji Cao, Nuno Matela, Pedro Almeida, Ricardo Bugalho

M18-28: GPU-Accelerated Monte Carlo Based Scatter Correction in Brain PET/MR

Dimtris Visvikis, Julien Bert, Michaela E. Gaens, N. Jon Shah, Uwe Pietrzyk

M18-33: A Post-Processing Method for Improving Contrast and Reducing Cupping Artifacts in Low-Energy CBCT Images

Chalinee Thanasupsombat, Phongphaeth Pengvanich, Saowapak Sotthivirat Thongvigitmanee, Sorapong Aootaphao

M18-39: Multiple Target Marker Tracking for Real-Time, Accurate, and Robust Rigid Body Motion Tracking of the Head for Brain PET

Jose M Anton-Rodriguez, Philip J Noonan, Rainer Hinz, Tim F Cootes, William A Hallett

M18-40: Fast and Practical Head Tracking in Brain Imaging with Time-of-Flight Camera

Jakob Wilm, Liselotte Hojgaard, Oline V. Olesen, Rasmus Larsen, Rasmus R. Jensen

M18-42: Extracting a Respiratory Signal from Raw Dynamic PET Data That Contain Tracer Kinetics

Kris Thielemans, Paul J Schleyer, Paul K Marsden

M18-43: Estimation of Decoding Error for Light Sharing Based PET Detector Module Using a Gaussian Mixture Model

Qingyang Wei, Shi Wang, Tiantian Dai, Tianyu Ma, Yaqiang Liu, Yongjie Jin

M18-45: A Neighborhood Standard Deviation Based Algorithm for Generating PET Crystal Position Maps

Peng Fan, Qingyang Wei, Shi Wang, Tiantian Dai, Tianyu Ma, Xingdong Li, Yaqiang Liu, Yongjie Jin, Yunhan Yu

M18-46: Acceleration of the Acquisition of Imaging Probes Using Spatiotemporal Processing

Cong Zhao, Guiyang Hao, Jaehoon Yu, Mingwu Jin, Wei Chen, Xiankai Sun

M18-47: Optimal Contrast as a Function of Noise for Butterworth Filtering of ¹¹¹In-Pentetreotide SPECT When Using Model-Based Compensation

Anne Larsson, Daniel Holmberg, Jan Axelsson, Katrine Riklund, Torbjorn Sundstrom

M18-48: Investigation on Parameter Selection of Non-Local Means Filters Using CT Side Information for Multiple I-131 SPECT Scans

Se Young Chun, Yuni Dewaraja

M18-49: Post-filtering of PET image based on noise characteristic and spatial sensitivity distribution

Il Jun Ahn, Ji Hye Kim, Jong Beom Ra, Woo Hyun Nam, Yongjin Chang

M18-51: Guided Noise Reduction with Streak Removal for High Speed Perfusion C-Arm CT

Andre Aichert, Andreas K Maier, Arnd Doerfler, Joachim Hornegger, Markus Kowarschik, Michael T Manhart, Tobias Struffert, Yu Deuerling-Zheng

M18-52: A Novel Image Restoration Method Assisted by Reference Image in Dual-Energy CT

Jia Hao, Kejun Kang, Li Zhang, Yuanji Li

M18-53: Registration Between Respiratory-Gated PET/CT and High-Resolution CT with XCAT Simulations: Evaluation and Optimization for Subsequent PVC

Anna Turco, Jens-Uwe Voigt, Johan Nuyts, Kathleen Vunckx, Olivier Gheysens, Piet Claus

M18-54: PET/CT Image Denoising and Segmentation based on a Multi Observation and a Multi Scale Markov Tree Model

Dimitris Visvikis, Emmanuel MONFRINI, Gaspar DELSO, Houda HANZOULI, Jerome LAPUYADE LAHORGUE, Mathieu HATT, Wojciech PIECZYNSKI

M18-56: Extraction of Cervical Vertebrae from Panoramic X-Ray Images

Akihiro Katsumata, Junpei Yamamoto, Koichi Ogawa, Masatoshi Yanase

M18-57: Anatomical Segmentation for Temporal Subtraction Images in Successive Whole-body Bone Scans

Junji Shiraishi, Kazunori Kawakami, Shinya Shiraishi, Tetsuo Hosoya

M18-59: Improved PET Lesion-Detection Performance Using 2mm Pixels

Alan M Morey, Dan J Kadrmas, Frederic Noo

M18-60: A Naive-Bayes Model Observer for a Human Observer in Detection, Localization and Assessment of Perfusion Defects in SPECT

Felipe M. Parages, J. Michael O'Connor, Jovan G. Brankov, P. Hendrik Pretorius

M18-61: A Novel Scheme for Computer Aided Detection (CADe) of Colonic Polyps Based on Colon Structure Decomposition

bowen song, Fangfang Han, Hao Han, hao Peng, huafeng wang, Yan Liu, Zhengrong Liang

M18-65: PET/CT Image Textures for the Recognition of Tumors and Organs at Risk for Radiotherapy Treatment Planning

Biao Zeng, Bin Liu, Bingqiang Hu, Guocai Liu, Haiyan Wu, Jinguang Liu, Jiutang Zhang, Jumei Zhou, Ke Liu, Mao Nie, Min Liu, Qiu Huang, Suyu Zhu, Weili Yang, Wenlin Huang, Xiang Peng, Xuping Zhao, Yi Mo, Yuan Yuan, Zaijie Huang, Zetian Hu

M18-66: Analysing Morphological Patterns of Blood Vessels for the Detection of Alzheimers Disease

Mark Nixon, Musab Sahrim, Roxana Carare

M18-68: Spectral Unmixing for in Vivo Fluorescence Imaging Based on Accurate Target-to-Background Estimation

Binjie Qin, Cheng Hu, Yong Zhao

M18-69: Classification Initialized Hierarchical ALS-Based NMF with Partial Sparseness Constraints for Fluorescence Spectral Unmixing

Binjie Qin, Cheng Hu, Shaosen Huang

M18-71: DQS Advisor: a Visual Interface to Balance Dose, Quality and Reconstruction Speed in Iterative CT

eric papenhausen, klaus mueller, ziyi zheng

M19 Student Competition

M19-1: Investigation of the Effects of Scintillator Pixel Shape, Surface Treatment and Optical Coupling on the Performance of Si-PM Based BGO Detectors

Arion F Chatziioannou, David L Prout, YANISLEY VALENCIAGA

M19-3: Test of a Compton Imaging Prototype at the ELBE Bremsstrahlung Beam

Andreas Wagner, Anne Dreyer, Christian Golnik, Fernando Hueso-Gonzalez, Fine Fiedler, Guntram Pausch, Heide Rohling, Klaus Heidel, Marc Berthel, Ronald Schwengner, Sebastian Schoene, Thomas Kormoll, Wolfgang Enghardt

M19-5: Simultaneous Reconstruction of the Activity Image and Registration of the CT Image in TOF-PET (

Ahmadreza Rezaei, Johan Nuyts

M19-6: Ordered Subsets Acceleration using Relaxed Momentum for X-Ray CT Image Reconstruction +

Donghwan Kim, Jeffrey A. Fessler

M20 Other Imaging Technologies II

M20-1: K-Edge Imaging with a Photon Counting CT System &

Futoshi Kaibuki, Koichi Ogawa, Mariko Matsumoto

M20-4: Spectral CT Imaging with Hybrid Detectors in Integrating and Dynamic-Threshold Counting Modes)

Ge Wang, Jiyang Chu, Liang Li, Shigeng Li, Wenxiang Cong, Zhiqiang Chen

M20-8: Many-View under-Sampling (MVUS) Technique for Low-Dose CT -

Byungchul Cho, Sajid Abbas, Seungryong Cho, Taewon Lee

M21 Imaging in Therapy / New Detector Materials and Technologies

M21-2: Prompt Gamma Imaging of a Proton Pencil Beam at Clinical Current Intensities: First Test on a Prototype and Development of a Full-Size Camera \$\$\$

Andrea Celani, Carlo Fiorini, Damien Prieels, Elisa Baio, Enrico Clementel, Frauke Roellinghoff, Frederic Stichelbaut, Guillaume Janssens, Irene Perali, Julien Smeets, Sebastien Henrotin, Tommaso Frizzi

M21-3: The Application of the Axial PET Concept to Novel Imaging Scenarios \$\$\$*

Irene Torres-Espallardo, John Gillam, Jorge Cabello, Josep Oliver, Magdalena Rafecas, Paola Solevi

M21-4: Proton Beam Range Verification Using off-Site PET by Imaging Novel Proton-Activated Fiducials \$\$\$%

Geoffrey S Ibbott, Jongmin Cho, Matthew Kerr, Osama R Mawlawi, Richard Amos

M21-5: A new beam range monitoring method by measuring low energy photons \$\$\$%)

Hirofumi Shimada, Kazuo Arakawa, Kota Torikai, Mitsutaka Yamaguchi, Motohide Kokubun, Naoki Kawachi, Shin Watanabe, Shu Fujimaki, Tadayuki Takahashi, Takahiro Satoh, Takashi Nakano, Tomihiro Kamiya, Yuto Nagao

M21-7: 4D and Multi-Phase Breath-Hold CT Imaging with Synchronized Intravenous Contrast Injection for Liver Tumor Delineation \$\$\$%+

Bruce Minsky, Christopher H Crane, Marc E Delclos, Prajnan Das, Sam Beddar, Sunil Krishnan, Yelin Suh, Zhifei Wen

M21-9: CBCT Image Reconstruction of a Moving Target with an on-Board Imaging System for Radiation Therapy \$\$\$&%

Chie Kurokawa, Etsuo Kunieda, Keisuke Sasai, Keisuke Usui, Koichi Ogawa, Satoru Sugimoto, Shigeto Kabuki

M21-11: Compton Imaging in a High Energetic Photon Field \$\$\$&'

Christian Golnik, Daniel Bemmerer, Fernando Hueso Gonzalez, Fine Fiedler, Guntram Pausch, Heide Rohling, Johannes von Borany, Klaus Heidel, Konrad Schmidt, Louis Wagner, Mathias Kempe,

Sebastian Schoene, Shavkat Akhmadaliev, Thomas Kormoll

M21-12: Current Status of 4D Offline PET-Based Treatment Verification at the Heidelberg Ion-Beam Therapy Center

Chiara Gianoli, Christoph Bert, Christopher Kurz, Daniel Richter, Daniel Unholtz, Guido Baroni, Juergen Debus, Julia Bauer, Katia Parodi, Kristin Stuetzer, Robert Kaderka, Stephanie Combs

M21-13: Accuracy Improvement of Time Delay Correction Method for PET-Based Tumor Tracking

Eiji Yoshida, Hideaki Haneishi, Hideaki Tashima, Taiga Yamaya, Tetsuya Shinaji

M21-15: Improved accuracy of image guided radiation therapy (IMRT) based on bone suppression technique

Hiroki Kawashima, Keita Sakuta, Makoto Oda, Mitsutaka Suzuki, Rie Tanaka, Shigeru Sanada

M21-17: Portal Image Registration Using the Phase Correlation Method

Atanas Papucharov, Georgi V Gerganov, Iwan Kawrakow, Krasimir K Mitev

M21-18: Preliminary Study of Intensity Weighted Region-of-Interesting Image Reconstruction Using Iterative Algorithm

Jin Sung Kim, Jiseoc Lee, Kihong Son, Seungryong Cho, Younjeong Lee

M21-22: Optimizing Secondary Radiation Imaging Systems for Range Verification in Hadrontherapy

Carles Solaz, Carlos Lacasta, Gabriela Llosa, Heide Rohling, Irene Torres-Espallardo, John E. Gillam, Josep F. Oliver, Magdalena Rafecas, Marco Trovato, Pablo Botas, Pablo G. Ortega, Paola Solevi

M21-24: Noise Evaluation of Prompt-Gamma Technique for Proton-Therapy Range Verification Using a Compton Camera

Alfredo Ferrari, Carlos Lacasta, Francesco Cerutti, Gabriela Llosa, Irene Torres-Espallardo, John E Gillam, Josep Oliver, Magdalena Rafecas, Mary P W Chin, Pablo G Ortega, Paola Solevi, Paola R Sala, Till T Boehlen

M21-25: Monte Carlo Simulation of Region-of-Interest Reconstruction for Real-Time Tumor Tracking by OpenPET

Eiji Yoshida, Hideaki Haneishi, Hideaki Tashima, Hiroshi Ito, Taiga Yamaya, Tetsuya Shinaji

M21-26: Monte Carlo Simulation Study of In-beam Intra-treatment PET Imaging for Adaptive Proton Therapy

Dragan Mirkovic, John W. Clark, Jr., Kai Lou, Xiaorong Ronald Zhu, Xishan Sun, Yiping Shao

M21-27: Observation of Tumor Morphological Changes in Lung Irradiation with Orthogonal Ray Imaging: RTmonitoring - a Simulation Study

Ana Cavaco, Helena Pereira, Hugo Simões, Isabel Bravo, João A.M. Santos, Joana Lencart, Maria C. Lopes, Miguel Capela, Paula Soares, Paulo Crespo, Paulo Fonte, Paulo C.P.S. Simões, Paulo J.B.M. Rachinhas, Rui Ferreira Marques

M21-28: Monte Carlo Simulations on GPU for Brachytherapy Applications

dimitris visvikis, Emmanuelle Le Fur, Julien Bert, Nicolas Bousson, Yannick Lemarechal

M21-30: Assessment of Microsoft Kinect Technology (Kinect for Xbox and Kinect for Windows) for Patient Monitoring During External Beam Radiotherapy

Ellen Donovan, Fatemeh Tahavori, John Jones, Kevin Wells, Majdi Alnowami, Premkumar Elangovan

M21-31: Full Inverse Treatment Planning in Spot-Scanning Ion Therapy

Jean-Michel Letang, Marc C Robini, Nicolas Freud

M21-34: Performance Evaluation of SensL SiPM Arrays for High-Resolution PET

Andrew L Goertzen, Carl Jackson, Christopher J Thompson, Daryl Bishop, Ehsan Shams, Fabrice Retire, Greg Stortz, Jonathan D Thiessen, Kevin O'Neill, Piotr Kozlowski, Vesna Sossi

M21-35: Performance Uniformity Evaluation of Two SensLs SiPM Array Modules

Anatoly Rosenfeld, Benjamin M.W. Tsui, Lachlan Chartier, Marco Petasecca, Michael Lerch, Peter Ihnart, Yujin Qi

M21-36: A Novel Approach to Position-Sensitive Silicon Photomultipliers: First Results

Alberto Gola, Alessandro Ferri, Alessandro Tarolli, Claudio Piemonte, Nicola Zorzi

M21-37: A 4x4 Pixilated Silicon Photomultiplier for a Multi-Channel Radiation Monitoring System

Dohyun Kim, Heonjoo Kim, Joanna Fowler, Sung Won Kim

M21-38: Comparison of End/Side Scintillator Readout with Digital-SiPM for ToF PET

Craig S. Levin, Jung Yeol Yeom, Matthew F. Bieniosek, Ruud Vinke

M21-39: Effects of Dark Counts on Digital Silicon Photomultipliers Performance

Radoslaw Marcinkowski, Roel Van Holen, Samuel Espana, Stefaan Vandenberghe

M21-40: Comparison of SDDs and SiPMs Photodetector Options for INSERT, a New Multi-Modality SPECT/MRI System for Preclinical and Clinical Imaging

Alberto Gola, Arslan Butt, Brian Hutton, Carlo Fiorini, Claudio Piemonte, Filippo Schembari, Gabor Nemeth, Gabriele Giacomini, Irene Perali, Kjell Erlandsson, Michele Occhipinti, Paolo Busca, Paolo Trigilio, Peter Major, Riccardo Quaglia, Roberta Peloso, Tamas Bukki

M21-47: The X'tal Cube with 1 mm³ Isotropic Resolution Based on a Stack of Laser-Segmented Scintillator Plates

Fumihiko Nishikido, Hideo Murayama, Hiroshi Ito, Munetaka Nitta, Naoko Inadama, Taiga Yamaya, Yoshiyuki Hirano

M21-48: Development of a SiPM based Gamma-Ray Imager Using a Gd₃Al₂Ga₃O₁₂:Ce (GAGG:Ce) Scintillator Array

Eleftherios Fysikopoulos, George Loudos, Maria Georgiou, Stratos David

M21-54: Development of a DAQ Circuit for a Plasma-Display-Panel Based X-Ray Detector

Eungi Min, Hakjae Lee, Hanho Park, Jungwon Kang, Kisung Lee, Sangheum Eom

M21-56: X-Ray Imaging with YSO Scintillating Crystal Array

ILHUNG PARK, JIK LEE, JIN A JEON, MIN BIN KIM

M21-61: Image Science with Photon-Processing Detectors

Abhinav K. Jha, Eric W. Clarkson, Harrison H. Barrett, Lars R. Furenlid, Luca Caucci, Matthew A. Kupinski

M21-62: Characterization of a Handheld Gamma Camera for Intraoperative Use for Sentinel Lymph Node Biopsy

Andrew L Goertzen, Bryan McIntosh, James Schellenberg, Jonathan D Thiessen, Michael J Simpson

M21-63: Development and Evaluation of Compact and High Resolution CdTe/CZT Detectors for Handheld Gamma Camera and Probe Application ()

Ling-Jian Meng, Zeng-Ming Shen

M21-66: A Feasibility Study of Portable Compton Camera for Metastatic Lymph Node Detection (\$

Hiroyuki Takahashi, Keisuke Matsusaka, Kenji Shimazoe, Masashi Fukayama, Miwako Takahashi, Tatsuaki Iriya, Toshimitsu Momose, Yasuaki Nakamura, Yasuhiro Okumura, Yasuyuki Seto

M21-68: Investigation of Optimization-Based Reconstruction for Intra-Operative Neurological Imaging (')

Emil Y. Sidky, Hiromichi Yokoyama, Masanobu Yamada, Michael D. Silver, Satoru Oishi, Tetsu Satow, Xiao Han, Xiaochuan Pan, Yu-Bing Chang

M22 Image Reconstruction II / Other Imaging Technologies II

M22-2: Influence of MRI Artifacts on PET Image Reconstruction Using MRI-Based Priors (*

Hans Herzog, Juergen Scheins, Liliana L Caldeira, Pedro Almeida

M22-4: Influence of Three Reconstruction Algorithms on the Estimation of Standardized Uptake Value in 18F-Fluoride PET () %

Charalampos Tsoumpas, Elisabetta Grecchi, Gary Cook, Kris Thielemans

M22-5: Fast, Robust Dynamic Field-of-View Adjustment for Iterative Reconstruction of Dedicated Breast CT Images () *

Emil Y Sidky, Ingrid Reiser, John M Boone, Kai Yang, Robert M Nishikawa, Xiaochuan Pan

M22-6: Optimization-based Image Reconstruction from Low-dose Patient Breast CT Data () ,

Emil Sidky, John Boone, Junguo Bian, Kai Yang, Xiaochuan Pan

M22-7: Time Reconstruction Study Using Tubes of Response Backprojectors in List Mode Algorithms, Applied to Breast PET Based on Monolithic Crystals (* ')

Amadeo Iborra, Antonio Gonzalez, Antonio Soriano, Carlos Corrachar, Efren Crespo, Filomeno Sanchez, Jose Maria Benlloch, Juan Pablo Rigla, Laura Moliner, Liczandro Hernandez, Luis Fernando Vidal, Maria Jose Rodriguez-Alvarez, Michael Seimetz, Pablo Bellido, Pablo Conde

M22-8: Verifying Cone-Beam CT Extended Axial Coverage with Iterative Reconstruction Using Real Data (* ,

Andrew M Davis, Charles A Pelizzari, Erik A Pearson, Xiaochuan Pan

M22-9: Investigation on Scale-Based Neighborhoods in MRFs for Statistical Iterative Reconstruction (+&

Hao Han, Hao Zhang, Jianhua Ma, Jing Wang, Yan Liu, Zhengrong Liang

M22-11: Image Reconstruction in Rectangular PET Systems Using Distance-Driven Projections (* +

Ashwin Wagadarikar, Hua Qian, Kristen A Wangerin, Lawrence R MacDonald, Paul E Kinahan, Ravindra M Manjeshwar

M22-12: Modeling of Pixelated Detector in SPECT Pinhole Reconstruction (, %

Bing Feng, Gengsheng L Zeng

M22-13: Impact of TOF Information in OpenPET Imaging (* , *

Hideaki Tashima, Taiga Yamaya

M22-14: Dose Reduction Achieved by Dynamically Collimating the Redundant Rays in Fan-Beam and Cone-Beam CT

Andreas Maier, Christian Riess, Joachim Hornegger, Martin Berger, Yan Xia

M22-16: TV-Based DOI De-Blurring Model for the Dual-Head Flat-Panel PET System

Cheng-Ying Chou, Chien-Min Kao, Chin-Tu Chen, Hung-Yi Chou

M22-17: Acceleration of Filtered Back-Projection Algorithm for 3D Cone-Beam CT Reconstruction Using Parallel Computation

Jartuwat Rajruangrabin, Pairash Thajchayapong, Saowapak S Thongvigitmanee, Sorapong Aootaphao

M22-18: GPU-Accelerated Motion Compensated OSEM List-Mode PET Reconstruction Using a Time-Averaged Sensitivity Matrix

Georgios I Angelis, Rezaul Bashar, Roger R Fulton, Steven R Meikle, William J Ryder

M22-19: Ultra Fast TOF 3D Reconstruction Using SIMD and Symmetry Superior to GPU Implementation

Inki Hong, Ziad Burbar

M22-20: High-Speed Reconstruction for Oblique-View CT

Kyung-chan Jin

M22-21: Cache-Optimised 3D PET Image Reconstruction Using Ordered Subsets in Combination with Highly Rotation-Symmetric Voxel Assemblies

Hans Herzog, Juergen J. Scheins, N. Jon Shah, Uwe Pietrzyk

M22-22: GPU-Accelerated Iterative 3D CT Reconstruction Using Exact Ray-Tracing Method for Both Projection and Backprojection

Jieun Jeong, Soo-Jin Lee, Van-Giang Nguyen

M22-24: Fast Scatter Correction for Cone-Beam Computed Tomography Using the Statistical Method

Jartuwat Rajruangrabin, Pairash Thajchayapong, Pinyo Yampri, Saowapak S.Thongvigitmanee, Sorapong Aootaphao, Tanapon Srivongsa

M22-25: A Method for Simultaneous Image Reconstruction and Beam Hardening Correction

Charles A. Bouman, Ken D. Sauer, Pengchong Jin

M22-26: An Image Reconstruction Framework for Arbitrary Positron Emission Tomography Geometries

Aswin John Mathews, Bosky Ravindranath, Joseph A O'Sullivan, Ke Li, Qiang Wang, Sergey Komarov, Yuan-Chuan Tai

M22-27: VACT: Visualization-Aware CT Reconstruction

Klaus Mueller, Ziyi Zheng

M22-28: Optimization of Filtered Back-Projection for a Rayleigh Task

Adrian A Sanchez, Emily Y Sidky, Xiaochuan Pan

M22-31: Quadratic Regularization Design for 3D Axial CT: Towards Isotropic Noise

Jang Hwan Cho, Jeffrey A Fessler

M22-32: Constrained TV-Minimization Reconstruction from Exterior CT Data

Buxin Chen, Emil Sidky, Junguo Bian, Min Yang, Xiao Han, Xiaochuan Pan, Zheng Zhang

M22-34: Hybrid Method of Quadratic and Total Variation Penalizations in the CT Image Reconstruction

Ryota Kohara, Yuta Ogura

M22-35: Edge-Preserving Bilateral Filtering for Images Containing Dense Objects in CT

Andreas Maier, Joachim Hornegger, Nicole Maass, Qiao Yang

M22-36: Motion-Compensated Image Reconstruction for Cardiac CT with Sinogram-Based Motion Estimation

Jang Hwan Cho, Jeffrey A Fessler

M22-37: Metal Artifact Correction Algorithm for CT

Debashish Pal, Jiang Hsieh, Kriti Sen Sharma

M22-38: A Metal Projection Segmentation Algorithm Based on Random Walks for Dental CBCT Metal Artifacts Correction

Li Zhang, Liang Li, Qingli Wang, Xiaofei Xu

M22-39: Improving Image Quality of a Mobile Cone-Beam CT by Use of Scatter and Beam-Hardening Corrections

Hee-Sin Lee, Kyong-Woo Kim, Miran Park, Seungryong Cho

M22-40: Parametric mapping model for bladder using free-form deformation

Hongbing Lu, Jun Feng, Yang Liu, Yikai Zhao

M22-41: Vector Quantization-Based Automatic Detection of Pulmonary Nodules in Thoracic CT Images

Fangfang Han, Hao Han, Hao Zhang, Lihong Li, William Moore, Zhengrong Liang

M22-42: A Feasibility Study of High Order Texture Features with Application to Pathological Diagnosis of Colon Lesions for CT Colonography

Bowen Song, Fangfang Han, Guopeng Zhang, Hongbing Lu, Huafeng Wang, Wei Zhu, Zhengrong Liang

M22-47: Development of a Simulation Environment for Cerenkov Luminescence Imaging

Alberto Del Guerra, Antonello E Spinelli, Esther Ciarrocchi, Federico Boschi, Marco Pagliuzzi, Nicola Belcari

M22-48: Volume-Selective Fluorescence X-Ray Counting - Towards 3-D Mapping of Naturally Occurring Trace Metals Without Image Reconstruction

Andrew Groll, Jonathan George, Ling-Jian Meng, Patrick J La Riviere

M22-49: Monte Carlo PENRADIO Software for Dose Calculation in Medical Imaging

Benedicte Poumarede, Camille Adrien, Cindy Le Loirec, Guillaume Bonniaud, Jean-Marc Bordy, Mercedes Lopez Noriega

M23 Data Corrections and Quantitative Imaging II / Tracer Kinetics

M23-1: Monotonic Iterative Algorithms for Crystal Efficiencies Estimation from Normalization Data and Single Rates Estimation from Compressed Random Coincidence Data

Vladimir Y Panin

M23-4: A Fast and Accurate Timing Alignment Method with TDC Linearity Calibration for a High-Resolution TOF-PET

Chao Wang, Hongdi Li, Hossain Baghaei, Rocio Ramirez, Shaohui An, Wai-Hoi Wong, Xingyu Lv, Xinyu Lv, Yun Dong, Yuxuan Zhang

M23-5: The Impact of Time-of-Flight Timing Resolution Using Clinical FDG Patient Data

Charles W Stearns, David L McDaniel, Michel Tohme, Scott D Wollenweber

M23-6: Potential Impact of Hybrid CZT SPECT/CT Imaging on Estimation Accuracy of Left Ventricular Volumes and Ejection Fraction: A Phantom Study

Albert J Sinusas, Veronica Sandoval, Yi-Hwa Liu

M23-9: Multi-Contrast, Multi-Resolution Phantom Materials for Radionuclide Imaging Using a Single Activity Concentration Fill

Scott D Wollenweber

M23-10: Image Quantification in High-Resolution PET Assessed with a New Anthropomorphic Brain Phantom

Jani Lindn, Jarkko Johansson, Jarmo Teuho, Mika Teraes, Tuula Tolvanen, Uygur Tuna, Virva Saunavaara

M23-11: Dual Isotope SPECT Imaging of I-123 and I-125

Dustin Osborne, Jens Gregor, Jonathan Wall, Sanghyeb Lee

M23-12: Impacts of Reduction of CT Radiation Dose on PET in PET/CT Imaging

Changguo Ji, Daniel Gagnon, Hongwei Ye, Manabu Teshigawara, Mark Winkler, Ting Xia, Wenli Wang, Xiaofeng Niu, Yasuhiro Noshi

M23-14: Material Decomposition Using a Singular Value Decomposition Method

Futoshi Kaibuki, Koichi Ogawa, Mariko Matsumoto, Takeshi Maji

M23-17: A Cautionary Note on the Use of Constrained Reconstructions for Quantification of Regional PET Imaging Data

David Hawe, Eric Wolsztynski, Finbarr O'Sullivan, Jian Huang, Kingshuk Roy Choudhury, Kyung-Mann Kim

M23-19: Evaluation of the HRRT and the HR+ for the Task of Relative Region Analysis using a Realistic Head and Brain Phantom

Andrew J Reader, Jean-Paul Soucy, Marzieh S Tahaei, Reda Bouhachi, Ron Mio, Simion Matei

M23-20: Clinical NECR in 18F-FDG PET Scans: Optimization of Patient Specific Activity and Variable Acquisition Time. Relationship with SNR

Caroline Bodet-Milin, Caroline Rousseau, Francoise Kraeber-Bodere, Hatem Necib, Ludovic Ferrer, Thomas Carlier

M23-24: Adaptive Threshold Method Based on PET Measured Lesion-to-Background Ratio for the Estimation of Metabolic Target Volume from 18F-FDG PET Images

Carla Canevari, Federico Fazio, Francesca Gallivanone, Isabella Castiglioni, Luca Presotto, Maria Carla Gilardi

M23-26: Automatic self-alignment and registration for PET/CT reconstructions by a cross-correlation maximization method

Hongdi Li, Hossain Baghaei, Rocio Ramirez, Wai-Hoi Wong, Yuxuan Zhang

M23-28: 1-D Interpolation Method for the HRRT PET Sinogram Gap-Filling +'

Sari Peltonen, Ulla Ruotsalainen, Uygur Tuna

M23-29: Kinetic Modeling of 18F-FMISO in Glioblastoma ++

Frederic Lamare, M'hamed Bentourkia, Michele Allard, Philippe Fernandez

M23-30: Impact of Motion on Indirect and Direct Estimation of Kinetic Parameters from Dynamic PET Data , \$

Andrew J Reader, Charalampos Tsoumpas, Fotis A Kotasidis, Georgios I Angelis, Habib Zaidi, Julian C Matthews

M23-31: Do Scatter and Random Corrections Affect the Errors in Kinetic Parameters in Dynamic PET? - A Monte Carlo Study , (

Anne Larsson, C Ross Schmidlein, Ida Häggström, Mikael Karlsson

M23-32: The influence of Time Sampling on Parameters in the Logan Plot , ,

Anne Larsson, Elin Wallsten, Ida Häggström, Jan Axelsson, Katrine Riklund, Lars Nyberg, Mikael Karlsson

M23-35: Direct Parametric Reconstruction from Undersampled (k, t)-Space Data in Dynamic Contrast Enhancement MRI - %

David Atkinson, Nikolaos Dikaïos

M23-36: Direct 4D Patlak Parametric Image Reconstruction Algorithm Integrating Respiratory Motion Correction for Oncology Studies - *

Dimitris Visvikis, Frederic Lamare, Philippe Fernandez, Thibaut Merlin

M23-37: A 5D Anthropomorphic Numerical Phantom for Respiratory-Gated Parametric Imaging Simulation Studies in Dynamic Emission Tomography **%* \$&

Charalampos Tsoumpas, Fotis A Kotasidis, Habib Zaidi, Irene Polycarpou

M23-39: Population Derived and Principle Component Analysis Based Model for the [18F]PBR111 Arterial Input Function in Rats **%* \$)

Halima Amhaoul, Jeroen Verhaeghe, Sigrid Stroobants, Stefanie Dedeurwaerdere, Steven Deleye, Steven Staelens

M23-40: Image-Based Fractional Flow Reserve Using Coronary Angiography **%* \$-

Jeff Trost, Jingwu Yao, Joao A.C. Lima, Omair Yousuf, Richard T. George, Takuya Sakaguchi

M23-45: Applying a [11C]Raclopride Template to Automated Binding Potential Estimation in HRRT Brain PET **%* %

Andrew J. Reader, Herve Lombaert, Kaleem Siddiqi, Marie Bieth, Paul Gravel, Philip Novosad

M24 Data Corrections and Quantitative Imaging II

M24-1: Time Alignment of Time of Flight Positron Emission Tomography Using the Background Activity of LSO **%* &%

Andrew P Moor, Harold E Rothfuss

M24-2: Combined Deadtime and Pile-up Correction for the MR-Compatible BrainPET Scanner **%* &(

Christoph P. Weirich, Hans Herzog, Juergen J. Scheins, Michaela E. Gaens, N. Jon Shah

M24-5: Normalization Coefficient Computing for Continuous Bed Motion Acquisition **%* &*

Anne M Smith, Michael E Casey, Vladimir Y Panin

M24-6: Multi-Centre Assessment of HRRT Image Uniformity via Ge-68 and F-18 Cylindrical and Anthropomorphic Phantoms

Andrew J Reader, Arman Rahmim, Jean-Paul Soucy, Marzieh S Tahaei, Merence Sibomana, Stephan Blinder, Sune H Keller

M25 High Resolution and Pre-Clinical Imaging Instrumentation

M25-1: Dual-Resolution MicroSPECT Mouse Imaging Using a Triple-Head SPECT System

Dan Xia, Mi-Ae Park, Scott D Metzler, Stephen C Moore

M25-2: Model-Based Normalization of a Fractional-Crystal Collimator Prototype for Small-Animal PET Imaging

Joel S. Karp, Samuel Matej, Scott D. Metzler, Yusheng Li

M25-4: First Measurements of a 512 PSAPD Prototype of a Sub-MM Resolution Clinical PET Camera

Arne Vandenbroucke, Craig S Levin, David FC Hsu, David L Freese, Derek Innes, Frances WY Lau, Paul D Reynolds

M25-6: Light-Sharing Interface for dMiCE Detectors Using Sub-Surface Laser Engraving

Lawrence R. MacDonald, Robert S. Miyaoka, Thomas K. Lewellen, Wendy McDougald, William C. J. Hunter

NSS

N1 Astrophysics and Space Instrumentation I

N1-5: A Scientific Trigger Unit for Space-Based Real-Time Gamma Ray Burst Detection (I - Scientific Software Model and Simulations)

Aleksandra Gros, Bertrand Cordier, Diego Gotz, Frederic Chateau, Herve Le Provost, Marin Cortial, Patrick Sizun, Pierre Kestener, Stephane Schanne

N1-6: Study of Event Reconstruction Algorithm for a Large-Scale Si/CdTe Multilayer Compton Camera

Hirokazu Odaka, Hiroyasu Tajima, Kazuhiro Nakazawa, Masayuki Ohta, Shin Watanabe, Shin'ichiro Takeda, Tadayuki Takahashi, Takaaki Tanaka, Taro Fukuyama, Yasushi Fukazawa, Yuto Ichinohe

N2 Gaseous Detectors I: Recent Developments

N2-1: Study on the Rate Capability of MRPCs Assembled with Thin Glass

Golovatyuk Slava, Jingbo Wang, Li Shi, Michai Buriakov, Michail Rumiantzev, Shengqin Feng, Vadim Babkin, Weiping Zhu, Xinjie Huang, Yi Wang, Zjifel Luo

N2-2: Inner Chamber of Belle II CDC

Eiichi Nakano, Khasmidatul Akma Azmi, Kullapha Chaiwongkhot, Muhammad Hafizuddin Nouxman, Nanae Taniguchi, Satsuki Minemura, Shoji Uno, Takashi Kohriki, Udomrat Tippawan

N2-3: Design, Construction and Testing of the Straw Tracker for the NA62 Experiment

Hans Danielsson

N2-4: Study of a Short Drift GEM Detector for Future Tracking Applications at RHIC

B. Azmoun, C. Woody, M. Purschke, T. Cao

N2-5: Development of Large Size Photon Detectors Based on THGEMs and Hybrid MPGD Architectures

Fulvio Tassarotto

N2-6: Development of a Hadron Blind Detector for the J-PARC E16 Experiment

Koki Kanno

N2-8: The Analog Detector of the ARGO-YBJ Experiment

Stefano Mastroianni

N3 X-ray/Neutron Imaging

N3-4: Bubble Masks for Time-Encoded Imaging of Fast Neutrons

Aaron Nowack, Daniel Throckmorton, Erik Brubaker, James Brennan, John Steele, Melinda Sweany

N3-5: On the Resolving and Source Identification Limitations of a Real-Time Fast-Neutron Imaging System

Jonathan Beaumont, Malcolm J Joyce, Matt Mellor

N5 High Energy Physics Instrumentation I

N5-1: Performance of the Current CMS Pixel Detector

Silvia Taroni

N5-2: The Atlas Liquid Argon Calorimeter at the CERN Large Hadron Collider: General Performance and Latest Developments of the High Voltage System

Valerio GRASSI

N5-5: Production and Performance of RE4 Resistive Plate Chambers for CMS Experiment Upgrade

Sung Keun Park

N5-6: The Micromegas Project for the ATLAS Upgrade

Theodoros Alexopoulos

N6 HEP Computing

N6-1: CERN Accelerator Data Logging and Analysis

Chris Roderick

N6-2: Data Preparation for the Compact Muon Solenoid Experiment

Giovanni Franzoni

N6-3: The NA62 Run Control

Nicolas Lurkin

N6-4: Performance of the ATLAS Calorimeter High-Level Trigger in the LHC Run 1 Data Taking Period

Denis Oliveira Damazio

N6-5: Report on Distributed Computing and Data Handling at Belle II Experiment

Jung Hyun Kim

N6-6: CMS Computing Upgrade and Evolution

Jose Hernandez

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Aya Kishimoto, Hiroki Suzuki, Jun Kataoka, Kenshiro Takeuchi, Michito Hirayanagi, Shigeyuki Nakamura, Shinji Ohsuka, Shunsuke Adachi, Takeshi Nakamori, Takuya Fujita, Takuya Kato, Tetsuya Uchiyama, Toru Nishiyama, Yoshitaka Ishikawa

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Allen Rowan, Eric Lukosi, Jennifer Littell, Robert Milburn

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Chankyu Kim, Daehee Lee, Dong-Uk Kang, Eun Joong Lee, Gyuseong Cho, Hyoungtaek Kim, Hyunjun Yoo, Jongyul Kim, Kyeongjin Park, Minsik Cho, Myung Soo Kim, Sung Jun Maeng, Yewon Kim

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ALBERT COMERMA, DAVID GASCON, Gustavo Martinez, Iciar Sarasola, Javier Castilla, Jesus Marin, Jose Manuel Cela, Jose Manuel Perez, Jose Maria Fernandez-Varea, Lluís Freixas, LLUIS GARRIDO, PEDRO RATO, Ricardo Graciani

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Guang Hua Gong, Hui Gong, Jian Min Li, Ming Zeng, Tao Xue, Xue Wu Wang

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Christopher L. Morris, Daichi Yamada, Edward C. Milner, Haruo Miyadera, Jeffery D. Bacon, John O. Perry, Kenichi Yoshioka, Konstantin N. Borozdin, Noriyuki Yoshida, Shinya Mizokami, Tsukasa Sugita, Yasuyuki Otsuka, Yuichiro Ban, Yuji Sano, Zarija Lukić

N42-2: Low Background anti-Neutrino Monitoring with an Innovative Highly Segmented Composite Solid Scintillator Detector

Alfons Weber, Antonin Vacheret, Paul R Scovell, Yuri Shitov

N42-3: The Total Absorption Spectroscopy Technique for Reactor Technology and Basic Nuclear Physics

Abdoul-Aziz Zakari-Issoufou

N42-5: Behaviour of 6LiF Covered Single Crystal Diamond Detectors Operated at High Temperature under Neutron Irradiation

Antonino Pietropaolo, Claudio Verona, Enrico Milani, Francesca Sarto, Fulvio Pompili, Gianluca Verona-Rinati, Giuseppe Prestopino, Marco Marinelli, Mario Pillon, Maurizio Angelone, Stefano Lecci

N43 HEP and NP Imaging

N43-2: The RICH System of the LHCb Experiment: Its Performance, Limits and Proposed Upgrade

Massimiliano Fiorini

N43-3: The NA62 RICH Detector

Antonino Sergi, Antonio Cassese, Enrico Iacopini, Francesca Bucci, Giuseppina Anzivino, Massimo Lenti, Mauro Piccini, Monica Pepe, Patrizia Cenci, Roberto Ciaranfi, Roberto Piandani, Stefano Lami,

Viacheslav Duk, Vito Carassiti

N43-4: Next Generation Associative Memory ASIC for the FTK Tracking Processor of the ATLAS Experiment

Alberto Annovi, Alberto Stabile, Alessandro Andreani, Alessandro Colombo, Francesco Crescioli, Jafar Shojaii, Matteo Beretta, Mauro Citterio, Paola Giannetti, Roberto Beccherle, Valentino Liberali

N43-5: Impact of the Ionization Profile on the Time- and Position-Resolution in Multi-Linear Silicon Drift Detectors

Andrea Castoldi, Chiara Guazzoni, Davide Mezza, Francesco Taccetti, Liu Chang, Lothar Strueder, Luca Carraresi, Robert Hartmann

N44 Trigger Systems

N44-1: Applications of Many-Core Technologies to Online Event Reconstruction in High Energy Physics Experiments

Alessandro Lonardo, Alessio Gianelle, Davide Rossetti, Denis Bastieri, Donatella Lucchesi, Laura Tosoratto, Marco Corvo, Peter Wittich, Piero Vicini, Ryan Rivera, Silvia Amerio, Stephen Poprocki, Ted Liu, Wesley Ketchum

N44-2: The LHCb Trigger System: Performance and Outlook

Albert Puig

N44-3: ATLAS Trigger Menu and Performance in 2012-2013 and Prospects for 2015

Olga Igonkina

N44-4: Upgrade of the ATLAS Level-1 Trigger with an FPGA Based Topological Processor

Regina Caputo

N44-6: The Level 0 Trigger Processor of the NA62 Liquid Krypton Electromagnetic Calorimeter

Adolfo Fucci, Andrea Salamon, Emanuele Santovetti, Fausto Sargeni, Gaetano Salina, Giovanni Paoluzzi, Luca Federici, Nicola De Simone, Stefano Venditti, Vincenzo Bonaiuto

N44-7: A Scientific Trigger Unit for Space-Based Real-Time Gamma Ray Burst Detection (II - Data Processing Model and Benchmarks)

Christophe Flouzat, Francois Daly, Frederic Chateau, Herve Le Provost, Jean Fontignie, Modeste Donati, Pierre Kestener, Stephane Schanne, Thomas Chaminade

N44-8: A Prototype of Self-Triggering Front-End Unit for Radio Detection of Ultra High Energy Neutrinos

Chunjie Wang, Fang Guo, Haichuan Lin, Jingzhou Zhao, Olivier Martineau-Huynh, Wei Lu, Zhen-An Liu

N45 Software in Action

N45-2: Preliminary Assessment of Geant4 HP Models and Cross Section Libraries by Reactor Criticality Benchmark Calculations

Bjorn C. Hauback, Esben Klinkby, Isabel Llamas-Jansa, Kalliopi Kanaki, Richard Hall-Wilton, Steven Mullet, Sverre Hval, Thomas Kittelmann, Xiao Xiao Cai

N45-3: Alpha Coincidence Spectroscopy Studied with GEANT4

Brian W Miller, Glenn A Warren, Gocha Tatishvili, Michael P Dion

N45-4: A Novel Markov Random Field-Based Clustering Algorithm to Detect High-Z Objects

with Cosmic Rays

Chris Steer, Christian Thomay, David G Cussans, Jaap J Velthuis, Jon Burns, Matt Stapleton, Paolo Baesso, Steve Quillin

N45-6: Evaluation of the Half-Value Layer and the Validity of Inverse-Square Law Applied to Radiology: Comparison among Deterministic Calculation, Monte Carlo Method and Experimental Results

Gabriela Hoff, Nathan W Lima

N45-7: Prospects of Hard X-Ray Polarimetry with Astrosat-CZTI

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N45-8: Data Analysis with R in an Experimental Physics Environment

Andreas Pfeiffer, Maria Grazia Pia

N45-10: Keeper: a Tool for Management and Automated Deployment of CMS Web Services

Miguel Ojeda Sandonis

N46 Synchrotron Radiation and FEL Instrumentation II

N46-5: A Simple Technique for Signal Compression in High Dynamic Range, High-Speed X-Ray Pixel Detectors

Bayan Nasri, Carlo Fiorini, Luca Bombelli, Matteo Porro, Peter Fischer, Stefano Facchinetti

N46-6: Simulation of the 3-D Coulomb Explosion of the Electron-Hole Carrier Distribution at High Injection Levels in 2-D Semiconductor Detectors

Andrea Castoldi, Pietro Zambon

N46-7: Upgrade of the DeFEL Proton Beamline for Detector Response Mapping

Andrea Castoldi, Chiara Guazzoni, Davide Mezza, Francesco Taccetti, Giuseppe Vito Montemurro, Luca Carraresi

R05-18: Measurement of Polarization Phenomena in CdTe Radiation Detector by Optical Laser Pulses

Akifumi Koike, Hidenori Mimura, Tetsu Ito, Toru Aoki, Yoichiro Neo, Yuto Suzuki

R05-23: Characterization of Functional Layers of CdTe Crystals Subjected to Different Surface Processing

Dmytro V. Gnatyuk, Iryna V. Yurgelevych, Leonid V. Poperenko, Oleksandr I. Dacenko, Toru Aoki

R05-28: Use of Virtual Frisch-Grid CdZnTe Detectors to Attain Sub-millimeter Spatial Resolution

Aleksey Bolotnikov, Anwar Hossain, Ge Yang, Giuseppe Camarda, Kihyun Kim, Kisung Lee, Matthew Petryk, Ralph James, Seungbin Bae, Utpal Roy, Vaclav Dedic, Yonggang Cui

R05-29: Performance of 20x20x5 mm³ Pixelated Cadmium Zinc Telluride Semiconductor Detectors from Various New Manufacturing Techniques

Joshua D Mann, Leonardi Tjayadi, Zhong He

R05-30: Development of a CZT Spectroscopic 3D Imager Prototype for Hard X Ray Astronomy

Andrea Zappettini, Angelo Basili, Carl Budtz Jorgensen, Ezio Caroli, Filomena Schiavone, Francesco Moscatelli, Giacomo Benassi, Irfan Kuvvetli, John B. Stephen, Luciano Milano, Natalia Auricchio, Nicola Zambelli, Rui M. Curado da Silva, Stefano Del Sordo

R05-31: Time-Resolved X-Ray Photon Detector

Adam O Lee, George M Williams, Jehyuk Rhee, Stephen D Kevan

R05-32: Low Background Measurements Using 3-D Position-Sensitive CdZnTe Detectors

Yvan A Boucher, Zhong He

R05-34: The Impact of Active Area Geometry and Electrophysical Characteristics on X-Ray Sensitivity and Spatial Resolution of GaAs Radiation Sensor

Alexander Vorobiev, Anastasia Lozinskaya, Andrey Zarubin, Anton Tyazhev, Dmitriy Mokeev, Oleg Tolbanov

R05-35: Multi-Scattering Imager for Photon Therapy

TAEWOONG LEE, WonHo Lee

R05-37: An Analysis of the Transient Radiation Damage Effects on Electronics Using Irradiation Experiment and Model Simulation

Heungsik Kang, Manwoo Lee, Moohyun Cho, Nanho Lee, Sanghun Jeong, Seongchan Oh, Won Namkung, Younggwon Hwang

R05-39: Hybrid Detectors of Neutrons Based on 3D Silicon Sensors with Polysiloxane Converters

Alberto Quaranta, Carlos Granja, Ennio Perillo, Fabiana Gramegna, Gabriele Giacomini, Gian-Franco Dalla Betta, Gianmaria Collazuol, Jiri Vacik, Marco Cinausero, Marco Povoli, Matteo Dalla Palma, Maurizio Boscardin, Milan Stefanik, Nicola Zorzi, Roberto Mendicino, Sabina Ronchin, Sara Carturan, Tomas Slaviček, Tommaso Marchi

R05-47: High-Contrast K-Edge CT by CdTe Photon Counting Detector

Hidenori Mimura, Kanichi Ashitomi, Toru Aoki, Yukino Imura

R05-52: Breaking the Speed Barrier in Real-Time Applications to Make Advances in Particle Detection, Medical Imaging and Astrophysics

R07 Si Detectors

R07-2: Dual Threshold X-Ray Photon Counter

Adam O Lee, George M Williams, Haifeng Zou, Jehyuk Rhee, Steve Ross

R09 CdZnTe II

R09-6: Performance Comparison of Steering-Grid and Simple-Pixel CdZnTe Detectors

Feng Zhang, Hao Yang, Joshua Mann, Yuefeng Zhu, Yvan A Boucher, Zhong He

R10 RTSD Scientist Award and CdZnTe III

R10-7: A Modified Diffusion Model for I-V Properties of Schottky Contacts to High Resistivity Semiconductors

Gangqiang Zha, Lingyan Xu, Ning Wang, Tao Wang, Wanqi Jie, Yadong Xu, Yan Zhou

R11 Alternative Semiconductor Materials and Detectors

R11-2: An overview of application of 4H-SiC n-type epitaxial Schottky barrier detector for high resolution nuclear detection

Khai Nguyen, Krishna C Mandal, Sandeep K Chaudhuri

R11-4: Detection of Light, X-Rays, and Gamma Rays Using Graphene Field Effect Transistors Fabricated on SiC, CdTe, and AlGaAs/GaAs Substrates

Edward Cazalas, Igor Jovanovic, Isaac Childres, Ozhan Koybasi, Yong P. Chen

R12 Imaging Applications

R12-6: X-Ray Diffraction Imaging System for the Detection of Illicit Substances Using Pixelated CZT Detectors

Dirk Kosciesza, Guillaume Montemont, Jens-Peter Schlomka, Joerg Meyer, Loick Verger, Olivier Monnet, Sylvain Stanchina

R13 CdZnTe and CdTe Alloys

R13-1: Development of Large-Area Imaging Arrays Using Epitaxially Grown Thick Single Crystal CdTe Layers on Si Substrates

Hayate Yamashita, Kazuhito Yasuda, Madan Niraula, Masahiko Matsumoto, Noriaki Takai, Yasunori Agata, Yudai Tsukamoto, Yuki Tsukamoto, Yuta Suzuki, Yuto Wajima

R13-2: Characterization of Non-Equilibrium Carriers in CdZnTe Crystal Using Time-of-Fight Technique

Gangqiang Zha, Guangqi Wang, Rongrong Guo, Tao Feng, Wanqi Jie, Yadong Xu

R14 Neutron Detectors

R14-1: Characterization of Microstructured Semiconductor Neutron Detectors

Douglas S. McGregor, Luke Henson, Ryan G. Fronk, Steven L. Bellinger, Taylor Ochs

R14-2: Development of SiC Detector for the Harsh Environment Applications

Hee Seo, Hee-Sung Shin, Ho Dong Kim, June-Sic Park, Se-Hwan Park, Seung Kyu Lee

R15 CdZnTe and CdTe

R15-7: Low Electronic Noise Digital ASIC Array System and Its Non-Linearity

Hao Yang, Zhong He, Andrea Pola, Eleni Sagia, Maria Vittoria Introini, Stefano Agosteo

RD1 Radiation Protection and Dosimetry

RD1-5: ⁵⁵Fe Measurements in Radioactive Waste with a Triple GEM Detector

Fabrizio Murtas, Marco Silari, Silvia Puddu

RD2 Radiation Dosimetry in the Medical Field

RD2-3: Polycrystalline CVD Diamond Matrix Dosimeters for Intensity Modulated Radiotherapy (IMRT)

Antonio de Sio, Cinzia Talamonti, Emanuele Pace, Lorenzo Tozzetti, Mara Bruzzi, Margherita Zani, Marta Bucciolini, Monica Scaringella

RD2-8: BrachyView: Post-Implant Computed Tomography Dosimetry Quality Assurance Using Timepix Detectors

Anatoly B Rosenfeld, Jan Jakubek, Jan Zemlicka, Joseph A Bucci, Kevin J Loo, M Petasecca, Marco Zaider, Michael Lerch, Mitra Safavi-Naeini, Stanislav Pospisil, Zhangbo Han

4D2 Quantitative Four-Dimensional Image Reconstruction Methods II

4D2-4: The strategy of elastic motion corrections

Inki Hong

Workshops

HT3 Status of in vivo Dosimetry with Positron Emission Tomography- Update on Novel Instrumentation and Monte Carlo Simulations for Hadron Therapy

HT3-8: Recent Updates and Plan in Geant4 Based Particle Therapy System Simulation

Framework

Akinori Kimura, Chihiro Omachi, Go Iwai, Naruhiro Matsufuji, Takashi Akagi, Takashi Sasaki, Teiji Nishio, Tomohiro Yamashita, Toshiyuki Toshito, Tsukasa Aso, Wataru Takase, Yoshikazu Maeda, Yoshiyuki Watase

HT3-10: ΔE -E Detector System for Characterisation of C-12 Therapeutic Beam for in Field and Out of Field.

Alberto Fazzi, Anatoly Rosenfeld, Dale Prokopovich, David Bolst, Linh T. Tran, Marco Petasecca, Mark Reinhard, Michael Lerch, Naruhiro Matsufuji, Stefano Agosteo, Susanna Guatelli, Ying Keat

HT3-11: Study of a Silicon Microdosimeter for Radiation Quality Assessment in Hadron Therapy Fields

Alberto Fazzi