2012 IEEE Nuclear Science Symposium and Medical Imaging Conference Record

(NSS/MIC 2012)

Anaheim, California, USA 27 October – 3 November 2012

Pages 1-702



IEEE Catalog Number: ISBN:

CFP12NSS-POD 978-1-4673-2028-3

Table of Contents

N1-1	High Position Resolution MRPC Developed for Muon Tomography 12. Fan, Y. Wang, X. Wang, M. Zeng, Z. Zeng, Z. Zhao and J. Cheng
N1-2	Design of a large area tomograph to search for high-Z materials inside containers by cosmic muons · · 5 D. Lo Presti, on behalf of the Muon Portal collaboration
N1-3	Online Baggage Inspection with Single-Slice-Helical CT
N1-5	Activation of Sodium Iodide Detectors in an Active Interrogation Environment
N1-6	Signal Analysis and Data Fusion Methodologies
N1-7	Material Recognition with Dual Energy Single-Slice-Helical CT
N1-9	Photofission for Active SNM Detection II: Intense Pulsed 19F(p,αγ)16O Characteristic γ Source ·· 24 P. Mistry, J. O'Malley, M. Ellis, C. Hill, R. Maddock, J. Precious, F. C. Young, S. L. Jackson, D. G. Phipps, R. Woolf and B. Phlips
N1-10	Pulse Shape Discrimination for CLYC Based Handheld Instruments
N1-13	A Nai(Tl) Scintillator for in Situ Environmental Studies and Laboratory Detection Measurements of Aqueous Potassium Chloride
N1-16	Neutrons for Active SNM Detection: Intense Pulsed ⁷ Li(p,n) ⁷ Be Source. 44 <u>C. D. Clemett</u> , P. Martin, J. Threadgold, C. Hill, M. Ellis, S. L. Jackson, R. Woolf, J. C. Zier, L. Mitchell and D. D. Hinshelwood
N1-17	Study of 3D Reconstruction Algorithm used in Cosmic-Ray Muon Radiography 51 J. Cheng, <u>B. Yu</u> , Z. Zhao and X. Wang
N1-18	Detection of Photon-Induced Excitations in ²³⁵ U with LaBr ₃ (Ce) Scintillating Detectors
N1-19	Muon Scattering Tomography with Resistive Plate Chambers
N1-20	A Peak Detection in Noisy Spectrums Using Principal Component Analysis

N1-21	Determination of Scaling Factors for Low and Intermediate Level Dry Radioactive Waste from Kozloduy Nuclear Power Plant 66
	K. Mitev, T. Boshkova, G. Gerganov, C. Andreev, N. Kirilova, E. Stoyanova, V. Zhivkova, M. Iliev, G. Neshovska and G. Georgiev
N1-23	Modeling Scattering for Security Applications: a Multiple Beam X-Ray Diffraction System
N1-25	Radiation Intensity Image Reconstruction in TGS Using ART Algorithm with Geometrically-Corrected System Matrix and TV Constraint
N1-27	Design and Construction of Muon Tomography Facility Based on MRPC Detector for High-Z Materials Detection
N1-29	Design of a Resistorless ASIC Preamplifier for HPGe Detectors with Non-Linear Pole/Zero Cancellation and Controlled Fast-Reset Feature 86 A. Pullia and S. Capra
N1-30	Machine Learning for the Cosmic Ray Inspection and Passive Tomography Project (CRIPT) 91 T. J. Stocki, C. Warren, M. P. C. Magill, B. E. Morgan, J. Smith, D. Ong, V. N. P. Anghel, J. Armitage, J. Botte, K. Boudjemline, D. Bryman, J. Bueno, E. Charles, T. Cousins, A. Erlandson, G. Gallant, R. Gazit, V. V. Golovko, R. Hydomako, C. Jewett, G. Jonkmans, Z. Liu, M. McCall, S. Noel, G. Oakham, A. Robichaud, M. Thompson and D. Waller
N1-35	Pulsed Photofission Delayed Gamma Ray Detection for Nuclear Material Identification
N1-38	CLYC in Gamma - Neutron Imaging System
N1-39	Interpolation of Incompletely and Non-Uniformly Sampled Survey Data for Buried Radioactive Point Source Detection
N1-50	MCNPX Characterization of Compact Superconducting Cyclotron with ¹¹ B Target 111 M. A. Norsworthy, C. A. Miller, S. D. Clarke, S. A. Pozzi and T. A. Antaya
N1-51	Development of Active Neutron-Based Interrogation System with D-D Neutron Source for Detection of Special Nuclear Materials
N1-56	Image Reconstruction Using a Three-Plane Dual-Particle Imager for Standoff Detection of Special Nuclear Material J. K. Polack, A. Poitrasson-Riviere, M. C. Hamel, M. F. Becchetti, K. Ide, S. D. Clarke, M. Flaska and S. A. Pozzi

Multi-Range Zero Dead Time Approach on FPGA Based Wide Range Neutron Monitoring System	122
HP. Chou, FM. Zhu and SY. Chen	122
Field Portable Neutron Spectrometer Based on the Bonner Sphere Principles J. Dubeau, S. S. hakmana Witharana, J. Atanackovic, A. Yonkeu, W. Matysiak, A. J. Waker, I. Aslam and J. P. Archambault	126
Further Investigations with GEM Detectors for Use on the ISIS Spallation Neutron Source D. M. Duxbury, N. J. Rhodes, E. M. Schooneveld and E. J. Spill	131
A 4-Channel Multiplex Analyzer for Real-Time, Parallel Processing of Fast Scintillators	134
A Novel In-Situ Detector for use During Small Angle Neutron Scattering Measurements	139
Neutron Spectrometry with a Boron-Loaded Liquid Scintillator	141
A Fast Neutron Spectrometer Based on GEM-TPC	146
Calibration of EJ309 Liquid Scintillator for Neutron Spectrometry	149
Development of Gas-Based 2-Dimensional Neutron Detector with Individual Line Readout and Optical Signal Transmission System	153
Large Area Sensing Arrays for Detection of Thermal Neutrons	156
Statistical Energy Determination in Neutron Detector Systems for Neutron Scattering Science ····· R. J. Hall-Wilton, K. H. Andersen, D. Anevski, J. Birch, A. Hiess, C. Hoglund, L. Hultman, A. Khaplanov, O. Kirstein, T. Kittelmann, K. Kanaki, D. Argyriou and A. Jackson	162
Improvement of Vacuum Tube Type Neutron Image Intensifier for Accelerator-Based Neutron Imaging	167
Study of a 10B-based Multi-Blade Detector for Neutron Scattering Science	171
Study of 10Boron-Lined Straw-Tube Detector Array for Neutron Small Angle Scattering	176

N1-81	A Multi-Anode Photomultiplier Tube Based Wavelength-Shifting-Fiber Detector for Neutron Diffraction	. 180
	CL. Wang, K. D. Berry, L. G. Clonts, M. L. Crow, Y. Diawara, L. L. Funk, B. W. Hannan, J. P. Hodges, R. A. Riedel, C. Kline and H. E. Workman	100
N1-82	Development of Two Dimensional Thermal Neutron Flux Monitor Using Multi-Wire Proportion Counter for Boron Neutron Capture Therapy	
N1-85	Research of ¹⁰ BF ₃ Surrounded Plastic Scintillator as Fast Neutron Detector	188
N1-87	A Neutron Sensitive Microchannel Plate Detector with Cross Delay Line Readout	192
N1-89	Machine Learning for Digital Pulse Shape Discrimination T. Sanderson, C. Scott, M. Flaska and S. Pozzi	199
N1-92	Passive Measurement of Organic-Scintillator Neutron Signatures for Nuclear Safeguards Applications J. L. Dolan, E. C. Miller, A. C. Kaplan, A. Enqvist, M. Flaska, A. Tomanin, P. Peerani, D. L. Chichester and S. A. Pozzi	203
N1-94	A Simulation of Detecting Neutrons from a 252Cf Neutron Source Using a 6Li Foil Multi-Wire Proportional Counter	207
N1-95	Simulations of the Cosmic-Ray-Induced Neutron Background	211
N1-97	Very Large Area Multi-Element Microstructured Semiconductor Neutron Detector Panel Array R. G. Fronk, S. L. Bellinger, D. S. McGregor, S. Tim, R. Taylor, D. Huddleston and B. W. Cooper	215
N1-102	Real-Time, Fast-Neutron Spectroscopy for Source Identification in Mixed-Field Imaging Applications J. Beaumont, M. Mellor and M. Joyce	219
N1-103	Development of Two-Dimensional Scintillation Detectors for Neutron Spin Echo Spectrometers if J-PARC/MLF T. Nakamura, M. Katagiri, T. Hosoya, K. Toh, M. Kitaguchi, M. Hino, T. Ebisawa, K. Sakasai and K. Soyama	
N1-106	High Resolution Neutron Imaging of Microfossils <u>J. Jakubek</u> , S. Pospisil, J. Vacik and D. Vavrik	226
N1-110	Liquid Scintillator-Based Neutron Detector Development A. Lavietes, R. Plenteda, N. Mascarenhas, L. M. Cronholm, M. Aspinall, M. Joyce, A. Tomanin and P. Peerani	230

N1-111	Study of Timing Properties of SiPMs at Fermilab. A. I. Ronzhin, S. Los, P. Murat, E. Ramberg, H. Kim, CT. Chen, CM. Kao, A. Zatserklianiy, M. Mazzillo, B. Carbone, G. Condorelli, G. Fallica, A. Piana, D. Sanfilippo, G. Valvo and S. Ritt	245
N1-112	Retrospective Rn-220 Measurements by Compact Discs	250
N1-113	Improving Performance of Fast, High Resolution LaBr3 Scintillation Detectors in Presence of Perfects S. Riboldi, S. Brambilla, C. Boiano and F. Camera	
N1-116	CaLIPSO: TMBi properties for particles detection	260
N1-117	Performance of a Radon Sensor Based on a BJT Detector on High-Resistivity Silicon	266
N1-121	Standardization of Ga-68 by Means of a 4π Beta-Gamma Software Coincidence System	269
N1-127	Development of a New Si(Li) Array for the Spectroscopy of the Hoyle State	273
N1-128	Development of a New Multiplying Assembly for Research, Validation, Evaluation, and Learnin D. L. Chichester and M. T. Kinlaw	ıg. 277
N1-129	Inverse Radiation Modelling for Plant Characterisation A. B. Shippen, M. P. Mellor and M. J. Joyce	284
N1-130	Numerical Study of the External Flow Effect on the Heat Transfer in a Radiometric Calorimeter Dedicated to Nuclear Heating Measurements M. Muraglia, C. Reynard-Carette, J. Brun, M. Carette, A. Janulyte, Y. Zerega, J. Andre, A. Lyoussi, G. Bignan, D. Fourmentel, C. Gonnier, P. Guimbal, JY. Malo, JF. Villard and JP. Chauvin	
N1-131	Energy Dependence of Scintillation Decay Times Measured with Gamma-Rays and Compton Electrons L. Swiderski, M. Moszynski, P. Sibczynski, M. Szawlowski, T. Szczesniak and J. Iwanowska	302
N1-133	Performance Studies of Scintillating Ceramic Samples Exposed to Ionizing Radiation	305
N1-135	Performance Improvement in LaBr3(Ce) Through Co-Doping with Strontium K. Yang, P. R. Menge and V. Ouspenski	308
N1-137	Scintillation Characterizations of Rb2LiGdCl6: Ce3+ Single Crystals	312
N1-139	Study of Undoped CeF ₃ Scintillators at Room and Liquid Nitrogen Temperature	315

N1-140	Storage Characteristics of Mixtures of KCl:Eu ²⁺ Phosphors and Polyethylene Powder by Irradiation of Fast Neutrons	
	K. Sakasai, K. Toh, T. Nakamura, K. Takakura, C. Konnno and Y. Iwamoto	,10
N1-143	Screening of Effective Doping in PbF2 for Introducing Scintillation Light	123
N1-148	Characterization of 4x4ch MPPC Array in Scintillation Spectrometry	127
N1-151	Properties of a Very Large Volume LaBr3:Ce Detector	331
N1-155	An Approximate Expression for the Flux Density of Scintillation Light at the Photocathode 3 <u>I. Braverman</u> , KP. Ziock and M. Harrison	135
N1-157	Energy Resolution and Gamma/Neutron Discrimination in Xenon-Doped Liquid Argon	139
N1-158	A New Optical Simulator for Light Collection Estimation in Scintillation Detectors	143
N1-164	Analysis of Cs2LiYC6:Ce3+ (CLYC) Waveforms as Read Out by Solid State Photomultipliers 3 B. S. Budden, A. J. Couture, L. C. Stonehill, A. V. Klimenko, J. R. Terry and J. O. Perry	147
N1-166	Gain Stabilization and Pulse-Shape Discrimination in a Thermally-Variant Environment for a Handheld Radiation Monitoring Device Utilizing Cs ₂ LiYCl ₆ :Ce ³⁺ (CLYC) Scintillator	
N1-169	Progress on Growth and Scintillation Properties of Cs2LiYBr6	157
N1-172	A Study on Radiation Hardness of BGO Crystals	361
N1-174	Comparison of BCF-10, BCF-12, and BCF-20 Scintillating Fibers for Use in a 1-Dimensional Line Sensor D. L. Chichester, S. M. Watson and J. T. Johnson	
N1-183	A Low-Power, Radiation-Resistant ASIC for SDD-Based X-Ray Spectrometers	371
N1-184	Single Event Upset Energy Dependence in a Buck-Converter Power Supply Design	376

N1-185	Radiation Tolerance Survey of a Variety of Silicon Photomultipliers to High Energy Neutron Irradiations 5: 7
	C. Zorn, F. Barbosa, Y. Qiang, J. McKisson, W. Xi and W. Steinberger
N1-187	High Fill Factor P-on-N Silicon Photomultipliers for Blue Light Detection
N1-188	Evaluation of the X-Ray Imaging Properties of Structured Aluminum-Oxide Matrices Filled with Different Scintillator Materials
N1-189	Exploration of the Pockels Effect for Radiation Detection Applications
N1-190	Study of Maintaining Stable SSPM-Based Detector Gain by Active Bias Control
N1-191	4pi FOV Active Collimation Imager 409 T. Lee and W. Lee
N1-194	First Results of an ASIC Controlled γ-Detector Based on a SiPM-Array and a Monolithic LYSO… 412 P. Conde, A. J. Gonzalez, L. Hernandez, L. Moliner, A. Orero, M. J. Rodriguez, A. Ros, F. Sanchez, A. Soriano, L. F. Vidal and J. M. Benlloch
N1-200	Energy Resolution Contributions in Reach-Through APDs
N1-202	High Rate X-Ray Spectroscopy with Silicon Drift Detectors Coupled with CUBE Frontend Electronics 418 L. Bombelli, R. Alberti, C. Fiorini, T. Frizzi and R. Quaglia
N1-203	SiPM Cross-Talk Amplification Due to Scintillator Crystal: Effects on Timing Performance 421 A. Gola, A. Tarolli and C. Piemonte
N1-205	Reach-Through APDs for X-Ray Detection
N1-206	Development of an automatic procedure for the characterization of silicon photomultipliers 428 <u>C. Piemonte</u> , A. Ferri, A. Gola, T. Pro, N. Serra, A. Tarolli, N. Zorzi and A. Picciotto
N1-207	Efficient Single-Detector Gamma Imaging for Civil Nuclear Inspection
N1-208	Accurate Dose Determination with P-I-N Diodes for Gamma Ray Fields 439 F. J. Ramirez-Jimenez, L. Mondragon-Contreras, J. M. Garcia-Hernandez and M. A. Torres-Bribiesca
N1-210	Operation of Large-Area APDs at Cryogenic Temperatures

N1-213	Studies of Optical Mixers for Use with Silicon Photomultipliers to Ameliorate Signal Saturation. 446 B. W. Baumbaugh, A. Heering, J. Marchant, M. McKenna, R. Ruchti, M. Vigneault, C. Broughton, C. Burke, L. Ciastro, J. Conti, K. Daily, B. Dolezal, D. Karmgard, M. O'Brien, P. Rose, S. Sharkey, J. Taylor, M. Tripepi and M. Wayne
N1-215	A Novel Gamma-Ray Imaging System Using a Coded-Aperture Compton Camera 450 A. M. Farber and J. G. Williams
N1-216	Performance Comparison of Two Compact Multiplexed Readouts with SensLs SPMArray4 for High-Resolution Detector Module
N1-217	Development of Large Area Silica Aerogel Used as RICH Radiator for the Belle II Experiment 458 M. Tabata, I. Adachi, Y. Hatakeyama, H. Kawai, T. Morita, K. Nishikawa and T. Sumiyoshi
N1-219	Software-Based Digital Pulse Processing for Silicon Photomultiplier Radiation Detectors
N1-225	Physics and Electronics Simulations of the Large Pixel Detector at EuXFEL
N1-227	Progress of FD-SOI Technology for X-Ray Pixel Detectors
N1-228	Calibration of DEPFETs with Internal Signal Compression
N1-229	Numerical Simulation for the Space Charge Effect on the Multi-Channel Ionization Chamber Time Response Signal
N1-230	Calibration of the Non-Linear System Response of a Prototype Set-up of the DSSC Detector for the European XFEL
N1-231	The APA Pixel Readout ASIC for an APD Based Fast 2D X-Ray Hybrid Pixel Detector
N1-233	Variable Beam Attenuators for Synchrotron Beamlines
N1-234	High-Speed CMOS Detector for Time-Resolved Synchrotron Applications
N1-235	Charge Pump Detector: Optimization with Process and Device Simulation 507 <u>J. Segal</u> and C. Kenney

N1-236	High-Z Radiation Shields for X-Ray Free Electron Laser Detectors	511
N1-237	Characterization of the eLine ASICs in Prototype Detector Systems for LCLS G. A. Carini, A. Dragone, BL. Berube, P. Caragiulo, D. M. Fritz, P. A. Hart, R. Herbst, S. Herrmann, C. J. Kenney, A. J. Kuczewski, H. T. Lemke, J. Mead, J. Morse, J. Pines, A. Robert, D. P. Siddons, D. Zhu and G. Haller	515
N1-238	CSpad-140k Experimental Applications at LCLS S. Herrmann, S. Boutet, G. Carini, A. Dragone, D. Freytag, G. Haller, P. Hart, R. Herbst, C. Kenney, J. Pines and G. Williams	520
N1-239	Beamstrahlung Radiation for Beam-Beam Instability	523
N2-2	A 1MPixel Fast CCD Sensor for X-Ray Imaging D. Doering, N. Andresen, D. Contarato, P. Denes, J. Joseph, P. McVittie, JP. Walder and J. Weizeorick	527
N2-3	EXCALIBUR: a Three Million Pixels Photon Counting Area Detector for Coherent Diffraction Imaging Based on the Medipix3 ASIC N. Tartoni, P. Gibbons, E. Gimenez, I. Horswell, J. Marchal, U. Pedersen, Z. Pesic, R. Plackett, C. Rau, R. Somayaji, J. Spiers, J. Thompson, B. Willis, C. Angelsen, P. Booker, S. Burge, J. Lipp, T. Nicholls, S. Taghavi, M. Thorpe and G. Dennis	530
N2-5	Development of the LPD, a High Dynamic Range Pixel Detector for the European XFEL	534
N2-7	The Cornell-SLAC Pixel Array Detector at LCLS	538
N3-3	Performance Optimization of Systems Containing Boron-10 Lined Proportional Counters	542
N3-4	Alternatives to Helium-3 for Neutron Multiplicity Counters	547
N3-5	Forbush Decrease of March 2012 Detected Using a Commercially-Available Muon-Tomography Cargo Scanner A. Lehovich, G. S. Blanpied, R. C. Reed, S. C. McKenney, P. P. Kurnadi, P. C. Lam and M. J. Sossong	554
N4-1	SPIROC: Design and Performance of a Dedicated Very Front-End for an ILC Prototype Hadroni Calorimeter with SiPM	

N4-2	Developement of Readout ASIC for FPCCD Vertex Detector at the ILC
N4-3	Real-Time Clustering in the Belle II Pixel Vertex Detector
N4-4	Development of a Wide-Dynamic Range Front-End ASIC for the W+Si Sampling Calorimeter 576 S. Hayashi, H. Hamagaki, T. Gunji, M. Tanaka and H. Ikeda
N4-6	A Sub-10ps Resolution Current Discriminator for Timing Applications
N4-7	Architecture and Design of the AGIPD Detector for the European XFEL
N4-8	The DSSC Pixel Readout ASIC with Amplitude Digitization and Local Storage for DEPFET Sensor Matrices at the European XFEL
N5-3	Neutron and Gamma Ray Response of a Modular Li Foil Multi-Wire Proportional Counter 597 K. A. Nelson, S. L. Bellinger, D. Francia, A. J. Schmidt, C. Wayant and D. S. McGregor
N5-4	Investigation of Three-Dimensional Localisation of Neutron Sources Using Parallel Axis Imaging · 600 K. A. Akurugoda Gamage, M. J. Joyce and G. C. Taylor
N5-8	Response Characterization for the Deuterium-Based Liquid Scintillation Detector EJ315 606 C. C. Lawrence, A. P. Enqvist, A. Howard, M. Flaska, J. J. Kolata, F. D. Becchetti and S. A. Pozzi
N6-2	The New PILATUS3 ASIC with Instant Retrigger Capability
N6-3	Front-End ASIC for High-Resolution and High-Rate CsI(Tl)-Si Detectors
N6-6	Super-Altro 16: a Front-End System on Chip for DSP Based Readout of Gaseous Detectors 620 M. De Gaspari, P. Aspell, H. Franca, E. Garcia Garcia and L. Musa
N6-7	Code-Density Calibration of Nyquist-Rate Analog-to-Digital Converters
N6-8	VMM1 - an ASIC for Micropattern Detectors
N7-7	The FLUKA Monte Carlo Code and Its Applications

N7-8	Uncertainty Quantification in Generic Monte Carlo Simulations
N8-1	Combining Radiography and Passive Measurements for Radiological Threat Detection in Cargo… 657 E. A. Miller, T. A. White, K. D. Jarman, R. T. Kouzes, J. A. Kulisek, S. M. Robinson, C. Scherrer and R. S. Wittman
N8-2	A Novel Technique to Detect Special Nuclear Material Using Cosmic Rays
N8-7	Real-Time Radioactive Source Localization with a Moving Coded-Aperture Detector System at Low Count Rates
N9-1	Radiation-Hard/High-Speed Parallel Optical Links 674 K. K. Gan
N9-2	GEMEX, a Compact Readout System 678 B. Voss, F. Garcia, J. Hoffmann, V. Kleipa, J. Kunkel, N. Kurz, A. Prochazka, I. Rusanov, M. Shizu and P. Skott
N9-3	eLine100: a Front End ASIC for LCLS Detectors in Low Noise Applications
N9-4	12-Bit, 3 GS/s, Radiation-Hard Time-Interleaved ADC for Particle Accelerator Applications 687 <u>E. O. Mikkola</u> and J. D. Cressler
N9-6	An Integrated Low-Noise Charge-Sensitive Preamplifier with Virtually Unlimited Spectroscopic Dynamic Range
N9-7	SPADIC 1.0 - a Multi-Channel Charge Pulse Amplification, Digitization and Processing ASIC for Detector Applications
N9-8	VERDI-3: A versatile readout ASIC for different families of radiation detectors
N10-5	Measurement of Volatile Impurities in Iodine-Based Scintillator Precursors
N10-7	High Resolution and High Contrast Imaging with Thin SrI2-Scintillator Screens
N11-1	Estimation of the Performance of Multiple Active Neutron Interrogation Signatures for Detecting Shielded HEU

N11-2	Active Detection of Special Nuclear Material - Recommendations for Interrogation Source Approach
	in a Prototype Active Detection System 732 C. Hill, P. N. Martin, R. Maddock, J. O'Malley, J. Threadgold, S. L. Jackson, J. Schumer, R. Commisso, B. Phlips and J. F. Davis
N11-5	Construction, Commissioning and First Data from the CRIPT Muon Tomography Project
N12-1	Multiband Charge-Coupled Device
N13-2	Production and Test of the First Triple-GEM Cylindrical Layers of the KLOE-2 Inner Tracker ···· 754 E. De Lucia, A. Balla, G. Bencivenni, P. Branchini, A. Budano, M. Capodiferro, S. Cerioni, P. Ciambrone, G. De Robertis, A. Di Domenico, D. Domenici, J. Dong, G. Fanizzi, G. Felici, M. Gatta, N. Lacalamita, R. Liuzzi, F. Loddo, M. Mongelli, G. Morello, A. Pelosi, L. Quintieri, A. Ranieri, E. Tshadadze, V. Valentino and E. Czerwinski
N13-5	The Operational Experience of the Triple-GEM Detectors of the LHCb Muon System: Summary of 2 Years of Data Taking
N13-6	Thick GEM-Based Detectors of Single Photons for Cherenkov Imaging Applications 763 S. Dalla Torre, on behalf of the Alessandria-Aveiro-Freiburg-Liberec-Prague-Torino-Trieste Collaboration
N14-2	The Beam Profile Monitor for UA9 Experiment
N14-3	LLRF Control System for TTX
N14-5	Simulation Study and Validation of the Read-Out Electronics Design for a High Resolution Plastic Scintillating Fiber Based Hodoscope for Beam Positioning
N14-9	Improvement of the CC2 Charge Sensitive Preamplifier for the GERDA Phase II Experiment 782 S. Riboldi, A. Pullia and C. Cattadori
N14-10	An Analog Solution Generating the Dynamic Threshold for TODT Digitizing Scheme
N14-12	Time Amplification Using Closed-Loop Differential Difference Amplifier
N14-14	OMEGAPIX2: 3D Integrated Circuit Prototype Dedicated to the ATLAS pixel detector for the High Luminosity LHC

N14-16	CASAGEM: A Readout ASIC for MPGDs	797
N14-17	16bit Multi-Energy Level Detecting Photon Counting ROIC	801
N14-19	FPGA-Based Architecture for Fast Feature Extraction with High Resolution	805
N14-20	Fully Active Voltage Divider for PMT Photo-Detector P. Margulis and M. Heifets	807
N14-21	A Versatile Low-Noise Wide-Range Charge-Sensitive Preamplifier for HPGe Detectors	815
N14-22	A 12-Channel 14/16-Bit 100/125-MS/s Digitizer with 24-Gb/s Optical Output for AGATA/GALILEO	819
N14-23	Dynamic Time-over-Threshold Method for Multi-Channel APD Based Gamma-Ray Detectors <u>T. Orita</u> , H. Takahashi and K. Shimazoe	824
N14-24	Designing the Front-End Electronics of a SiPM Based γ-Ray Detection System for Optimal Time Resolution F. Corsi, F. Ciciriello, F. Licciulli, C. Marzocca, G. Matarrese, A. Del Guerra and M. G. Bisogni	827
N14-25	Multi-Correlated Double Sampling vs Analog Shaper: Low Power ASIC for Pixelated CdTe A. Michalowska, O. Gevin, O. Limousin and C. S. Tindall	834
N14-26	Time-to-Digital Converters for PET: An Examination of Metrology Aspects	839
N14-27	Fast Analog Front-End for the Readout of the SuperB SVT Inner Layers	841
N14-28	Low Power, Low Noise Charge Sensitive Amplifier in CMOS 0.18 µM for Fine Pitch Pixelated Concepted Detector Readout. O. Gevin, A. Michalowska, O. Limousin, C. S. Tindall, S. Dubos, D. Renaud and X. Coppolani	
N14-30	Development of an Amplifier IC with Wide Dynamic Range for Si Detector in RIKEN SAMURA Spectrometer A. Takuma, A. Taketani, H. Murakami, K. Kurita, M. Kurokawa and M. Tanaka	
N14-31	Development of a Readout Electronic for the Measurement of Ionization in Liquid Xenon Compter Telescope Containing Micro-Patterns O. Lemaire, WT. Chen, JP. Cussonneau, E. Delagnes, J. Donnard, S. Duval, O. Gevin, AF. M. Hadi, E. Morteau, T. Oger, L. Scotto-lavina and D. Thers	
N14-33	A Scalable Digital Pulse Process Module for the MRPC Detector of Muon TomographyX. Yue, M. Zeng, Z. Deng, Z. Zeng, X. Wang and J. Cheng	862

N14-34	A 16 Channels Multi-Detector Pulse Shape Amplifier with Serialized Readout C. boiano, S. Riboldi and A. guglielmetti	865
N14-35	Noise Considerations for a Very Low Threshold Semiconductor Detector System	868
N14-36	A 34 Gbps Data Transmission System with FPGAs Embedded Transceivers and QSFP+ Modules. R. Ammendola, A. Biagioni, O. Frezza, F. Lo Cicero, A. Lonardo, P. S. Paolucci, D. Rossetti, A. Salamon, F. Simula, L. Tosoratto and P. Vicini	872
N14-37	STiC - a Mixed Mode Chip for SiPM ToF Applications	877
N14-38	Time-over-Threshold Processing Implementation for Silicon Detectors with Large Capacitances K. Kasinski, R. Kleczek, P. Grybos and R. Szczygiel	882
N14-39	A Low Cross-Talk 3-Channel Analog Multiplexer with a 12-Bit 25-MS/s Pipelined ADC F. Rarbi, D. Dzahini, L. Gallin-Martel and J. Bouvier	886
N14-40	Solid State Radiation Measurement System for High Flux Applications	890
N14-42	sLine: a High Voltage Switcher ASIC for LCLS Detectors with Rolling Shutter	892
N14-43	eLine10k: a High Dynamic Range Front End ASIC for LCLS Detectors	898
N14-44	Readout Electronics Development Based on an ASIC for PET Detector Using PMT-Quadrant-Sharing. T. Xu, J. Chen, L. Lu, Z. Deng, T. Ma, S. Wang and Y. Liu	906
N14-47	Design of electronics of LEPD principle prototype onboard the CEMES satellite	909
N14-48	Balloon-Flight Test of a Lanthanum Bromide Gamma-Ray Detector with Silicon Photomultiplier Readout. P. F. Bloser, J. S. Legere, J. R. Wurz, L. F. Jablonski, C. M. Bancroft, M. L. McConnell and J. M. Ryan	912
N14-53	Development of a Detector Based on Silicon Drift Detectors for Gamma-Ray Spectroscopy for Astronomy Applications R. Peloso, <u>C. Fiorini</u> , L. Bombelli, P. Busca, R. Quaglia, A. Geraci, P. Bellutti, M. Boscardin, F. Ficorella, G. Giacomini, A. Picciotto, C. Piemonte, N. Zorzi, S. Incorvaia, N. Nelms and B. Shortt	918
N14-54	Readout Electronics and DAQ System for Silicon Drift Detector Arrays in Gamma Ray Spectrosco Applications R. Quaglia, A. Abba, L. Bombelli, P. Busca, F. Caponio, C. Fiorini, A. Geraci, R. Peloso and A. Cusimano	

N14-241	Development of Low Noise Scintillator Crystals for Inter-Planetary Space Missions	927
N14-55	Development of Low-resistivity Silicon Drift Detector Arrays for Soft X-rays	931
N14-57	Simulation of Radiation Tolerance of N-in-P Slim-Edge Detectors for Close-to-Beam Experiment HL-LHC L. P. Balbuena, G. Pellegrini, C. Fleta, M. Lozano, G. Ruggiero, M. Ullan and E. Verbitskaya	
N14-58	Study of Surface Effects in the Operation of 3D Microstrip Detectors with Ultra-Thin Silicon Substrates J. P. Balbuena, G. Pellegrini, C. Fleta, C. Guardiola, M. Lozano, D. Quirion, M. Ullan and F. Garcia	940
N14-59	Combined MCNP/GADRAS Simulation of HPGe Gamma Spectra	944
N14-61	Monitoring Tool for Digital Errors in the ATLAS Tile Calorimeter Readout	948
N14-64	An Attenuated Projector for Iterative Reconstruction Algorithm of a Novel Tomographic Gamma Scanner M. A. Belzunce, C. Verrastro, E. Venialgo, E. Da Ponte, A. Carimatto, L. Martinez Garbino, J. Alarcon and D. Estryk	
N14-67	A 3-D Simulation Code of Electron-Hole Transport and Signal Formation with Coulomb Repulsi and Thermal Diffusion in 2-D Semiconductor Detectors A. Castoldi, C. Guazzoni and P. Zambon	
N14-68	Iterative Reconstruction of Coded Source Neutron Radiographs H. Santos-Villalobos, P. Bingham and J. Gregor	968
N14-71	SuperB Production System for Simulated Events F. Bianchi, V. Ciaschini, M. Corvo, D. Del Prete, A. Di Simone, G. Donvito, A. Fella, P. Franchini, F. Giacomini, A. Gianoli, S. Longo, S. Luitz, E. Luppi, M. Manzali, S. Pardi, A. Perez, M. Rama, G. Russo, B. Santeramo, R. Stroili, A. Giannelle and L. Tomassetti	972
N14-72	A Prototype Suite for Data-Analysis Management of the SuperB Experiment	975
N14-73	On-Demand Lung CT Analysis with the M5L-CAD via the WIDEN Front-End Web Interface and OpenNebula-Based Cloud Back-End D. Berzano, S. Bagnasco, R. Brunetti, N. Camarlinghi, P. Cerello, S. Chauvie, G. De Nunzio, E. Fiorina, M. E. Fantacci, E. Lopez Torres, S. Lusso, C. Peroni and A. Stancu	

N14-74	Evaluation of the Solid Radioactive Waste Activity in Nuclear Medicine: Definition of a Shape Factor	
	to Real Geometries	
N14-75	LHCb Software and Conditions Database Cross-Compatibility Tracking: a Graph-Theory Approach	
N14-77	Validation of MCNPX-PoliMi Fission Models 997 S. A. Pozzi, S. D. Clarke, W. J. Walsh, E. C. Miller, J. L. Dolan, M. Flaska, B. M. Wieger, A. Enqvist, E. Padovani, J. K. Mattingly, D. L. Chichester and P. Peerani	
N14-78	Comparison of Geant4 Version 9.3 Simulations with Experimental Results from a Prototype Proton CT Scanner	
N14-81	Comparison of GEANT4 and MCNPX-PoliMi Fission Models	
N14-84	mesh2gdml: from CAD to GDML	
N14-85	lcsim: a Detector Response Simulation Toolkit	
N14-93	An MVT Based All-Digital DAQ for Energy Determination in Radiation Detection	
N14-97	A Multi Channel High Accuracy Real Time DAQ System for the Fast Neutron Spectrometer Based on GEM-TPC	
N14-98	A Multichannel Data Acquisition System for Bolometer Detectors Based on Microcontroller Cortex M3 Architecture	
N14-99	Evaluation of a Modular PET System Architecture with Synchronization over Data Links1035 R. J. Aliaga, V. Herrero-Bosch, J. M. Monzo, A. Ros, R. Gadea-Girones and R. J. Colom	
N14-100	Kmax-Based Data Acquisition System for the University of Kentucky Accelerator Laboratory1044 <u>B. P. Crider</u> and R. B. Piercey	
N14-101	Multifunction Fast Recorder ADC12500 for Plasma Diagnostics	
N14-102	Gamma-Ray Spectrometer with High Event Processing Rate	

N14-103	Data acquisition system prototype for Thomson scattering diagnostic of ITER divertor1056 S. Ivanenko, E. Puryga, P. Zubarev, A. Kvashnin, A. Ivanova and A. Khilchenko
N14-104	An Automated System for Testing of Readout Electronics of Position Sensitive X-ray Detectors ··· 1060 P. Maj, <u>A. Goral</u> and P. Grybos
N14-107	Multichannel DAQ System for SiPM Matrices
N14-109	Towards the Integration of a Multichannel Fully Digital Acquisition System for Imaging Applications
N14-110	DAQ System for the Readout of Silicon Pixel Detectors Based on VataGP7 Front-End ASIC1084 V. K. Stankova, E. Chesi, V. Cindro, N. H. Clinthorne, E. Cochran, B. Grosicar, H. Kagan, K. Honscheid, C. Lacasta, C. Brzezinski, M. Mikuz, C. Solaz, A. Student, P. Weilhammer, D. Zontar and G. Llosa
N14-111	A Flexible General Purpose VME Data Acquisition System in a Kmax Environment
N14-112	S-LINK on a Chip for Embedded Applications
N14-113	Energy Reconstruction from PileUp Events
N14-115	Peak-Valley Analysis of Three-Quanta Positron Annihilation: Validity, Limitation and Optimization
N14-116	Mass Production Automated Test System for the NEXT SiPM Tracking Plane
N14-118	High Performance Web Applications for Secure System Monitoring and Control1109 C. C. W. Robson, S. B. Silverstein, P. Plucinski and C. Bohm
N14-119	An Improved Time Synchronization Algorithm on 1000BASE-T Ethernet 1112 F. Nagy, J. Imrek, G. Hegyesi, I. Valastyan and J. Molnar
N14-120	Sensor Network Architecture for a Fully Digital and Scalable SPAD Based PET System1115 C. Veerappan, C. Bruschini and E. Charbon
N14-121	Super-FRS GEM-TPC Prototype Development Based on n-Xyter Asic for the Fair Facility1119 <u>F. Garcia</u> , R. Janik, R. Turpeinen, B. Voss, V. Kleipa, A. Prochazka, J. Hoffmann, I. Rusanov, N. Kurz, S. Minami, M. Pikna, P. Strmen, R. Lauhakangas, E. Tuominen, B. Sitar and J. Kunkel
N14-122	The Performance and Radiation Hardness of the Outer Tracker Detector for LHCb1124 C. Faerber, on behalf of the LHCb Outer Tracker Collaboration

N14-124	Study of VUV Detector Based on Thinner THGEM for CDEX
N14-125	MWPC Gain Monitoring Through Time Measurements
N14-126	Systematic Study of RPC Performances in Polluted or Varying Gas Mixtures Compositions: an Online Monitor System for the RPC Gas Mixture at LHC
N14-127	Results from the First Operational Period of the CF ₄ Recuperation Plant for the Cathode Strip Chambers Detector at the CMS Experiment
N14-128	Induced Charge Profile in Glass RPC Operated in Avalanche Mode
N14-129	The Large-Area Gamma-Ray Imaging Sensor with GEMs
N14-131	New Development of μ-PIC with Resistive Cathode and Capacitive Readout
N14-132	Development of a Common Gas Analysis Approach for the Gas Systems of All the Experiments at the CERN Large Hadron Collider
N14-133	X-Ray Imaging Detector Based on a 2D Sensitive THCOBRA with Resistive Line Readout ······1160 A. L. M. Silva, C. D. R. Azevedo, L. Carramate, T. Lopes, R. de Oliveira and J. F. C. Veloso
N14-135	Ion Back Flow Reduction in a THGEM Based Detector
N14-137	Test Beam Results of New Full-Scale Prototypes for CMS High-Eta Muon System Future Upgrade
N14-142	New Photomultiplier Active Base for Hall C Jefferson Lab Lead Tungstate Calorimeter1177 <u>V. Popov</u> and H. Mkrtchyan
N14-143	Commissioning of the Testbeam Prototype of the CALICE Tile Hadron Calorimeter1180 B. Hermberg, on behalf of the CALICE Collaboration
N14-146	Experience with Constructing and Operating the World's Largest Silicon-Based Electromagnetic Calorimeter - the CMS Preshower

N14-147	Calibration of the CMS Electromagnetic Calorimeter at the LHC
N14-151	An Ultra-Pure and Challenging Gas System for Studying the Formation of Aerosols and Clouds in the CLOUD Experiment at the CERN PS. 1199 R. Guida, P. Carri, LP. De Menezes, J. Duplissy, F. Fayet, S. Haider, J. Kirkby, S. Mathot, P. Minginette, A. Onnela, J. Rochez, G. Thomas, A. Wasem and M. Wilhelmsson
N14-152	Test Beam Performance of the CALICE Scintillator based Electromagnetic Calorimeter Prototype1204 M. A. Khan, on behalf of the CALICE Collaboration
N14-154	3D Silicon Sensors- Large Area Production, QA and Development for the CERN ATLAS Experiment Pixel Sensor Upgrade
N14-155	New Pixel Detectors for the Upgrade of the ALICE Inner Tracking System
N14-158	Design and Fabrication of Sensor Prototypes for the End-Cap Tracker of the ATLAS Upgrade ····1226 M. Ullan, <u>V. Benitez</u> , C. Lacasta, G. Pellegrini, C. Fleta, C. Garcia and M. Lozano
N14-159	Reliability Analysis of a Low Voltage Power Supply Design for the Front-End Electronics of the Atlas Tile Calorimeter
N14-161	Fast Calibration UV LED System for CALICE Scintillator based Tile Hadron Calorimeter 1240 I. Polak, on behalf of the CALICE
N14-165	A Real Time, Large Area, High Spatial resolution Tracker based on square scintillating fibers ······1244 <u>D. Lo Presti</u> , G. V. Russo, N. Randazzo, V. Sipala, E. Leonora, F. Longhitano, P. Cristina, G. A. P. Cirrone, F. Romano and C. Stancampiano
	A Time of Arrival Estimator Based on Multiple Timestamps for Digital PET Detectors1250 L. H. C. Braga, L. Gasparini and D. Stoppa
N14-168	Towards a High-Dynamic Dose-Range Irradiation Setup for Radiobiology and Radiophysiology 1253 S. Ghithan, F. Alves, R. Ferreira Marques, F. Fraga, H. Simões and P. Crespo
N14-169	Depth of Interaction Estimation Using Artificial Neural Network for Continuous Crystal PET Detector
N14-170	A Simple and Robust Method for Fast Crystal Identification

N14-171	Beam Profile Monitoring System for Proton Therapy and Monte Carlo Modeling of Proton Beam Lateral Development in Water in 100-400MeV1268
	CH. Lin, PK. Teng, ML. Chu, FX. Chang, A. E. Chen, SY. Cai, PR. Tsai, YW. Tsai, CH. Wang, CW. Hsieh, TS. Duh, JH. Lee, CC. Lee, SJ. Dai, TC. Chao and CJ.
	Tung
N14-173	X-Ray Detector Made of Plastic Scintillators and WLS Fiber for Real-Time Dose Distribution Monitoring in Interventional Radiology F. Nishikido, T. Moritake, S. Kishimoto and T. Yamaya
N14-176	Neutral and Charged Particles' Flux Measurement for Released Dose Imaging in Hadrontherapy ·1275 S. Fiore, C. Agodi, G. Battistoni, F. Bellini, G. A. P. Cirrone, F. Collamati, G. Cuttone, E. De Lucia, M. De Napoli, A. Di Domenico, R. Faccini, F. Ferroni, P. Gauzzi, E. Iarocci, M. Marafini, I. Mattei, S. Muraro, A. Paoloni, V. Patera, L. Piersanti, F. Romano, A. Sarti, A. Sciubba, E. Vitale and C. Voena
N14-177	Development of a Proton Computed Tomography System for Pre-Clinical Tests
N14-179	High Dynamic Range X-Ray Flux Monitoring System 1284 T. Hofmann, M. Hertlein, F. Nachtrab and N. Uhlmann
N14-180	Study of the Transient Response of PI/a-Se Photodetectors for Indirect Conversion Medical Imaging
	S. Abbaszadeh, N. Allec and K. S. Karim
N14-181	3D Beam Monitoring for 12C Radiotherapy by Tracking of Secondary Ions Using the Timepix Detector
	K. Gwosch, B. Hartmann, J. Jakubek, S. Pospisil, O. Jaekel and M. Martisikova
N14-182	Novel Time over Threshold Based Readout Method for MRI Compatible Small Animal PET Detector
	I. Valastyan, J. Gal, G. Hegyesi, G. Kalinka, F. Nagy, B. Kiraly, J. Imrek, J. Molnar, M. Colarieti-Tosti, Z. Szabo and L. Balkay
N14-183	Radiation Hardness of a Large Area CMOS Active Pixel Sensor for Bio-Medical Applications1300 M. Esposito, T. Anaxagoras, O. Diaz, K. Wells and N. M. Allinson
N14-185	A Laboratory PET Scanner with Silicon Detectors Segmented to 1 mm Detection Cells
N14-186	Monte Carlo Simulations for the Development a Clinical Proton CT Scanner

N14-187	Development and Characterization under Intensity Modulated Radiotherapy Beam of a Large Area Bidimensional Dosimeter Made with P-Type Epitaxial Silicon
	M. Bruzzi, M. Scaringella, C. Talamonti, M. Casati, D. Menichelli and M. Bucciolini
N14-188	Ethernet-Based Flash ADC for a Plant PET Detector System
N14-190	PhytoPET: Design and Initial Results of Modular PET for Plant Biology
N14-192	Development of a Range Counter with SiPM Readout for Proton CT
N14-200	Vertically Integrated CMOS Active Pixel Sensors for Tracking Applications in HEP Experiments 1330 D. Passeri, L. Servoli, S. Meroli, D. Magalotti, P. Placidi and A. Marras
N14-204	Layout and Process Improvements to Double-Sided Silicon 3D Detectors Fabricated at FBK1334 M. Povoli, GF. Dalla Betta, A. Bagolini, M. Boscardin, G. Giacomini, F. Mattedi and N. Zorzi
N14-206	New Si Drift Detectors Arrays with Customer-Design, Low Current (Low Heat, Low Power) Spiral Biasing Adaptor and Double-Metal Interconnections
N14-210	Final Characterization of the ATLAS IBL Detector Modules with ²⁴¹ Am During the Construction Phase
N14-211	Analysis of the Drift Velocity of the Silicon Drift Detector for ALICE Experiment
N14-214	Conceptual Design of a Radial Vane Silicon Tracker for a New Measurement of the Muon Anomalous Magnetic Moment g-2 and Electric Dipole Moment at J-PARC1353 K. Ueno, H. Iinuma, M. Iwasaki, T. Kakurai, T. Kohriki, T. Mibe, O. Sasaki and N. Saito
N14-217	Mapping the Amplitude and Position Response of DSSSD with Monochromatic Single Protons ··1358 L. Acosta, F. Amorini, A. Anzalone, L. Auditore, C. Boiano, G. Cardella, L. Carraresi, A. Castoldi, A. Chbihi, E. De Filippo, L. Francalanza, E. Geraci, S. Giani', <u>C. Guazzoni</u> , E. La Guidara, G. Lanzalone, I. Lombardo, S. Lo Nigro, D. Loria, C. Maiolino, I. Martel, T. Minniti, G. V. Montemurro, A. Pagano, E. V. Pagano, M. Papa, T. Parsani, S. Pirrone, G. Politi, F. Porto, F. Riccio, F. Rizzo, P. Russotto, A. M. Sanchez Benitez, J. A. Duenas, R. Berjillos, S. Santoro, F. Taccetti, A. Trifiro', M. Trimachi, G. Verde, M. Vigilante and P. Zambon
N14-219	Development of Silicon Strip Sensors and Radiation Hardness Studies for the PANDA MVD1365 T. Quagli, KT. Brinkmann, D. Deermann, R. Schnell, J. Tummo and HG. Zaunick
N14-220	Monolithic Active Pixel Silicon Detectors for Future Electron Ion Colliders: Status and Plans1370 EC. Aschenauer, B. Cole, K. T. Crowley, B. Di Ruzza, E. Hughes, D. Malinsky and M. Winter

N14-221	The Design of High Speed Trigger Multiplexer Module for the Belle II Cylindrical Drift Chamber Detector
	CH. Wang, SM. Liu and YS. Teng
N14-223	Waveform Sampler Module for J-PARC TREK Experimen
N14-224	TIGER - a Fast Trigger Processor for the COMPASS-II Recoil Proton Detector
N14-225	The ATLAS Trigger Menu: Design and Performance
N14-226	Performance of the ATLAS Level-1 Calorimeter Trigger in High Luminosity Proton-Proton Collisions at the LHC
N14-227	FastTracker Performance Using the New Variable Resolution Associative Memory for Atlas1392 <u>T. Iizawa</u> , on behalf of the ATLAS collaboration
N14-228	Instrumentation of a Level-1 Track Trigger in the ATLAS detector for the High Luminosity LHC
N14-229	The ATLAS Muon Trigger Performance in Pp Collisions at Sqrt(s)=8 TeV in Year 2012 Runs·····1401 <u>T. Nobe</u> , on behalf of the ATLAS collaboration
N14-230	Performance and Improvements of the ATLAS Jet Trigger System
N14-231	The ATLAS Muon Calibration Stream : Design and Performance
N14-232	An Upgraded ATLAS Central Trigger for 2014 LHC Luminosities
N14-236	A Hybrid Readout System for the ATLAS TileCal Phase 2 Upgrade Demonstrator1416 C. Bohm, on behalf of the on behalf of the ATLAS Tile Calorimeter System
N14-239	The ATLAS Hadronic Tau Trigger
N15-1	Photofission for Active SNM Detection I: Intense Pulsed 8MeV Bremsstrahlung Source1424 C. Hill, J. O'Malley, M. Ellis, P. Mistry, R. Maddock, J. Precious, J. C. Zier, S. L. Jackson, A. Hutcheson, L. Mitchell and B. Phlips
N15-2	Photonuclear Physics Modeling in the MCNPX-PoliMi Code

N15-3	A Microfabricated Electrostatic Field Desorption Ion Source
N16-1	Single-Chip Time-to-Digital Converter with 10 ps Resolution, 160 ns Dynamic Range, and 1% LSB DNL1440
	B. Markovic, D. Tamborini, F. Villa and A. Tosi
N16-2	A Low Noise and High Dynamic Charge Sensitive Amplifier-Shaper associated with Silicon Strip Detector for Compton Camera in hadrontherapy
N16-3	VIP-PIX: a Low Noise Readout ASIC for Pixelated CdTe Gamma-Ray Detectors for Use in Next Generation of PET Scanners
N16-4	A 64-Channel ASIC for TOFPET Applications
N16-5	32 Channels SPAD Array for Single Photon Timing Applications 1465 C. Scarcella, S. Bellisai, A. Della Frera, A. Ruggeri, S. Tisa, A. Tosi and F. Zappa
N16-6	KLauS - a Charge Readout and Fast Discrimination Readout ASIC for Silicon Photomultipliers ··1469 T. Harion, W. Shen, G. Sidlauskas, M. Dorn, K. Briggl and HC. Schultz-Coulon
N16-8	TIMPIC-II: the Second Version Time-Based-Readout ASIC for SSPM Based PET Applications1474 X. Zhu, Z. Deng, K. A. Lan, X. Sun, Y. Liu and Y. Shao
N17-2	Performance of the LHCb Detector During the LHC Proton Runs 2010-2012
N17-3	The LHCb Detector Upgrade 1487 C. Faerber, on behalf of the LHCb collaboration
N17-6	Development of a RICH Counter with 144-ch Hybrid Avalanche Photo-Detectors for the Belle II Experiment 1490 S. Iwata, I. Adachi, R. Dolenec, K. Hara, M. Higuchi, T. Iijima, H. Kakuno, H. Kawai, T. Kawasaki, S. Korpar, P. Krizan, T. Kumita, S. Nishida, W. Mori, S. Ogawa, R. Pestotnik, Y. Sakashita, L. Santelj, A. Seljak, T. Sumiyoshi, H. Takagaki, M. Tabata, Y. Yusa and R. Verheyden
N17-7	The ATLAS Forward Physics Project
N18-2	Performance of the LHCb VELO
N18-4	Beam Tests and Performance Studies for the PANDA Micro-Vertex-Detector

N18-6	ATLAS Silicon Microstrip Tracker Operation and Performance	
N19-2	The sROD Demonstrator for the ATLAS Tile Calorimeter Upgrade	
N19-3	High Performance FPGA-Based Scatter/Gather DMA Interface for PCIe1517 H. Kavianipour and C. Bohm	
N19-5	Testing Radiation Tolerance of Optical Transceivers for the SuperB Experiment1521 A. Aloisio, F. Ameli, V. Bocci, G. Chiodi and R. Giordano	
N19-7	A New DAQ System Strategy and its Implementation for the KLOE-2 Experiment1523 P. Branchini, on behalf of the KLOE2 experiment	
N20-1	High-Speed Pulse Height Analyzer for Downhole Spectroscopic Applications1526 B. Jorion and C. Stoller	
N20-2	A Digital Data Acquisition System for the Detectors at Gammasphere	
N20-5	Status and Design of Two-Phase Liquid-Xenon Compton-Imaging Detector	
N20-6	FARCOS: a Versatile and Modular Femtoscopy Array for Correlations and Spectroscopy1547 L. Acosta, F. Amorini, A. Anzalone, L. Auditore, C. Boiano, G. Cardella, A. Castoldi, A. Chbihi, E. De Filippo, L. Francalanza, E. Geraci, S. Giani', <u>C. Guazzoni</u> , E. La Guidara, G. Lanzalone, I. Lombardo, S. Lo Nigro, D. Loria, C. Maiolino, I. Martel, T. Minniti, A. Pagano, E. V. Pagano, M. Papa, T. Parsani, S. Pirrone, G. Politi, F. Porto, F. Riccio, F. Rizzo, P. Russotto, A. M. Sanchez-Benitez, J. A. Duenas Diaz, R. Berjillos Morente, S. Santoro, A. Trifiro', M. Trimarchi, G. Verde, M. Vigilante and P. Zambon	
N21-1	Performance Characteristics of the OSMOND Neutron Detector	
N21-2	SPRINTER: a New Detector System for the INTER Neutron Reflectometer	
N21-4	Performance Test of a Triple GEM Detector at CERN n_TOF Facility	
N21-5	Gamma Sensitivity of a ZnS:Ag(6-LiF) Wavelength Shifting Fiber Neutron Detector in Mixed Neutron-Gamma Fields	

N21-6	A 2D Gas Scintillation Proportional Detector for Thermal Neutrons	1572
N22-2	Timing Resolution Improvement of MPPC for TOF-PET Imaging	1577
N22-3	Time Jitter of Silicon Photomultipliers T. Szczesniak, M. Moszynski, M. Grodzicka, M. Szawlowski, D. Wolski and J. Baszak	1581
N22-5	Delayed Avalanches in Silicon Photo-Multipliers	1585
N22-7	Development of PPDs to Detect Scintillation Light from Liquid Xenon T. Iwamoto, X. Bai, T. Chiba, Y. Fujii, D. Kaneko, T. Haruyama, A. Maki, S. Mihara, T. Mori, H. Natori, H. Nishiguchi, W. Ootani, R. Sawada and Y. Uchiyama	1589
N23-1	FPGA-Based Serial Links for SuperB: Design Issues Vs. Radiation Tolerance	1595
N23-2	Digital Data Acquisition and Processing for a Neutron-Gamma-Ray Imaging System	1597
N23-3	The Autonomous, Low-Power Data Acquisition System for the ARIANNA Antarctic Neutrino Detector Array S. A. Kleinfelder, on behalf of the ARIANNA Collaboration	1600
N23-4	A Wireless Power and Data Acquisition System for Large Detectors	1607
N23-5	Control and Data Acquisition System for X-Ray Free-Electron Laser Experiments at SACLA M. Yamaga, A. Amselem, Y. Furukawa, T. Hirono, Y. Joti, T. Kameshima, A. Kiyomichi, T. Ohata, T. Sugimoto, R. Tanaka and T. Hatsui	1615
N23-6	A Study of a Prototype DAQ System with over 10 Gbps Bandwidth for the SACLA X-Ray Experiments C. Saji, T. Ohata, T. Sugimoto, R. Tanaka and M. Yamaga	1619
N23-7	A Readout System for High-Speed CCD Cameras Based on Advanced Telecommunications Computing Architecture P. J. McVittie, J. M. Joseph, D. Contarato, P. Denes, D. Doering and J. Weizeorick	1623
N23-8	Likelihood Analysis of Beam Data for Time Of Propagation Counter	1626
N24-3	Advanced Alignment of the ATLAS Tracking System S. Pedraza Lopez, on behalf of the ATLAS collaboration	1630
N24-4	Performance and Phase I Upgrade Plans for the CMS Pixel Detector	1635

N24-6	Silicon Strip Detectors for ATLAS at the HL-LHC Upgrade	1639
N24-7	Conceptual Design of the Muon Forward Tracker of the ALICE Experiment	1646
N25-1	Silicon Sensors for HL-LHC Tracking Detectors	1653
N25-3	A Charge Collection Study with Dedicated RD50 Charge Multiplication Sensors	1657
N25-4	Thin Silicon Detectors for Tracking in High Radiation Environments	1661
N25-5	Silicon Strip Sensor Simulations T. Eichhorn, on behalf of the CMS collaboration	1664
N25-6	Exploring Various Isolation Techniques for the Development of Low-Mass, Low-Noise Silicon Tracking Stations for the CBM Experiment M. Singla, S. Chatterji, V. Kleipa, W. F. J. Mueller and J. M. Heuser	1670
N25-7	Proton and Neutron Irradiation Tests of Readout Electronics of the ATLAS Hadronic Endcap Calorimeter S. Menke, on behalf of the ATLAS Liquid Argon Calorimeter Group	1676
N25-8	A Study on Radiation Hardness of PWO-II Crystals	1681
N26-1	Polymer and Glass-Matrix Nanocomposites for Scintillation Applications Z. Kang, B. K. Wagner, C. J. Summers, J. Nadler, R. Rosson and B. Kahn	1688
N26-4	Development of Transparent Ceramic GYGAG(Ce)-Based Gamma Spectrometers	1692
N26-5	2-Inch Size Crystal Growth of Ce:Gd3Al2Ga3O12 with Various Ce Concentration and Their Scintillation Properties. K. Kamada, P. Prusa, M. Nikl, T. Yanagida, T. E. Endo, K. Tsutumi, Y. Usuki and A. Yoshikawa	1698
N27-7	Material Characterisation with the Associated Particle Technique	1702
N28-2	Ray Tracing Simulations in Scintillators: a Comparison Between Slitrani and Geant4	1712

N28-3	A Study on Multiplex Proton Imaging Using GEANT4	1717
N28-8	In-Orbit Activation Study of ASTRO-H X-Ray Observatory Using Geant4	1727
N28-9	Nuclear Resonance Fluorescence in GEANT4: Development, Validation and Testing	1731
N29-1	Orthopix: a Novel Compressing Architecture for Pixel Detectors	1735
N29-2	Monolithic Pixel Sensors for Fast Particle Trackers in a Quadruple Well CMOS Technology S. Zucca, L. Gaioni, L. Ratti, G. Traversi, S. Bettarini, F. Morsani, G. Rizzo, A. Gabrielli and F. Giorgi	1742
N29-4	A Fast Charge Sensitive Amplifier Design for Diamond Radiation Spectroscopy	1750
N30-1	Amplification of the Luminescence Response in Organic Materials under Ionizing Radiation M. Michel, L. Rocha, M. Hamel and S. Normand	1753
N30-5	Measuring the Non Proportional Response of Scintillators Using a Positron Emission Tomogra Scanner H. E. Rothfuss, J. W. Young, L. A. Eriksson, S. B. Siegel, M. E. Casey and C. L. Melcher	
N31-2	Charge-Focusing Readout of Time Projection Chambers	1760
N31-3	Performance of Glass GEM T. Fujiwara, M. Uesaka and H. Takahashi	1766
N31-4	Studies of Micromegas Chambers Using UV Laser-Photoelectrons K. Temming, G. Herten, U. Landgraf, W. Mohr and S. Zimmermann	1768
N31-5	Performance of GEM with Deuterium Gas and GEM with Glass Insulator	1772
N31-7	Plasma Panel Sensors for Particle and Beam Detection	1775
N32-1	The ATLAS Trigger Performance and Evolution V. Bartsch, on behalf of the ATLAS collaboration	1781

N32-2	Evolution of the Trigger and Data Acquisition System in the ATLAS Experiment
N32-3	Performance of the CMS Electron and Photon Level-1 Trigger
N32-4	Trigger-Less Readout of the PANDA Electromagnetic Calorimeter
N32-5	DEAP Trigger and Readout Electronics System
N32-6	Applications of GPUs to Online Track Reconstruction in HEP Experiments
N32-7	The Topological Trigger System for the VERITAS Upgrade 1812 B. J. Zitzer, on behalf of the VERITAS Collaboration
N32-8	The Trapezoidal Clocking
N33-2	Radiation Damage Effects in the LHCb Vertex Locator
N33-5	Towards Radiation Hard Sensor Materials for the CMS Tracker Upgrade
N33-6	Gamma-Ray Induced Radiation Damage in Large Size BGO Crystals for the SuperB Calorimeter 1833 S. Fiore, I. Dafinei, R. Faccini, E. Furfaro and D. Pinci
N34-2	Development of a Single Photon Avalanche Diode (SPAD) Array in High Voltage CMOS 0.8 um dedicated to a 3D Integrated Circuit (3DIC)
N34-4	Multi-Channel Digital SiPMs: Concept, Analysis and Implementation
N34-5	Characterization of 2x2ch MPPC Array at Wide Temperature Range (-40 st C to +22 st C)1845 M. Grodzicka, M. Moszyński, T. Szczęśniak, W. Czarnacki, M. Szawłowski, K. Grodzicki and J. Baszak
N35-1	Final Concept and Performance of the Electromagnetic Calorimeter of the PANDA Detector at FAIR
	R. W. Novotny, on behalf of the PANDA Collaboration
N35-2	Development of W+Si Based Electromagnetic Calorimeter for the Upgrade of the LHC-ALICE Experiment T. Gunji, S. Hayashi, H. Hamagaki, Y. Hori and Y. Sekiguchi

N35-3	KPiX: a 1024 Channel Readout ASIC for the ILC1857
	J. Brau, M. Breidenbach, A. Dragone, G. Fields, R. Frey, D. Freytag, M. Freytag, C. Gallagher, G.
	Haller, R. Herbst, B. Holbrook, R. Lander, A. Moskaleva, C. Neher, T. Nelson, S. Schier, B.
	Schumm, D. Strom, M. Tripathi and M. Woods
N35-4	Response Evolution of the CMS ECAL and R&D Studies for Electromagnetic Calorimetry at the
	High-Luminosity LHC
	F. Nessi-Tedaldi, on behalf of the CMS ECAL group
N35-6	Shower Development of Particles with Momenta of 1 to 10 GeV in a Highly Granular Tungsten
	Analog Hadron Calorimeter
	A. Lucaci-Timoce, on behalf of the CALICE Collaboration
N35-8	The SuperB Muon Detector, Status and Perspectives ······1875
	W. Baldini, M. Andreotti, M. Benettoni, R. Calabrese, V. Carassiti, G. Cibinetto, A. Cotta, F.
	Dalcorso, C. Dedonato, F. Fabbri, E. Luppi, R. Malaguti, A. Montanari, A. Pietropaolo, M.
	Posocco, M. Rotondo, V. Santoro, R. Stroili, L. Tomassetti, G. Tellarini and N. Tosi
N36-1	POLAR: a Gamma-Ray Burst Polarimeter in Space1880
	S. Orsi, on behalf of the POLAR Collaboration
N36-2	Balloon-Borne Hard X-Ray Polarimetry with PoGOLite1885
	M. Pearce, on behalf of the PoGOLite Collaboration
N36-3	Balloon-Flight Results of a FAst Compton TELescope (FACTEL)1893
	M. G. Julien, J. M. Ryan, P. F. Bloser, J. S. Legere, C. M. Bancroft, M. L. McConnell, R. M.
	Kippen and S. Tornga
N36-8	The Upgraded Readout System of the MAGIC Telescopes1901
	D. Tescaro, on behalf of the MAGIC Collaboration
N37-1	The CaLIPSO Detector Project for Enhanced PET Imaging1905
	D. F. Yvon, JP. Renault, G. Tauzin and P. VERRECCHIA
N37-3	CMOS APS in Pre-Clinical Science: Next Generation Disruptive Technology for Multi-Modality
	Imaging1910
	M. Esposito, A. Bailey, J. Newcombe, T. Anaxagoras, N. M. Allinson and K. Wells
N37-4	Monitoring of Ion Beam Energy by Tracking of Secondary Ions: First Measurements in a Patient-like
	Phantom
	M. Martisikova, J. Jakubek, K. Gwosch, B. Hartmann, J. Telsemeyer, S. Pospisil and O. Jaekel
N37-5	The KENTROS Detector for Identification and Kinetic Energy Measurements of Nuclear Fragments
	at Polar Angles Between 5 and 90 Degrees
	M. De Napoli, on behalf of the FIRST Collaboration
N37-7	Response of Silicon Diodes for Synchrotron Radiation
	I. E. Anokhin, M. Lerch, M. Petasecca, A. Rosenfeld and O. Zinets
N38-3	High Rate GRPC for Muon Detectors Upgrade at LHC1934
	I. B. laktineh

N39-4	Study and Experimentation of a High Resolution Gamma Camera Based on Thick CsI(Tl) Crystals
	P. Busca, C. Fiorini, A. Marone, M. Occhipinti, R. Peloso, F. Camera, N. Blasi, B. Million and O. Wieland
N39-5	Influence of the Water Temperature on Direct Measurements of Rn-222 in Water by Liquid Scintillation Counting of Polycarbonates1941
	I. S. Dimitrova, S. B. Georgiev, K. K. Mitev and D. S. Pressyanov
N40-1	High Fill Factor Digital Silicon Photomultiplier Structures in 130nm CMOS Imaging Technology1945
	R. J. Walker, E. A. G. Webster, J. Li, N. Massari and R. K. Henderson
N40-4	Comparative Timing Performances of S-CVD Diamond Detectors with Different Particle Beams and Readout Electronics
	N. Randazzo, S. Aiello, G. Chiodini, G. A. P. Cirrone, G. M. Cuttone, M. De Napoli, V.
	Giordano, S. Kwan, E. Leonora, F. Longhitano, D. Lo Presti, L. Moroni, C. Pugliatti, R. R. Rivera,
	V. Scuderi, V. Sipala, C. Stancampiano, C. Tuve' and L. Upplegger
N40-5	The Tipsy Single Soft Photon Detector and the Trixy Ultrafast Tracking Detector1952 H. van der Graaf
N40-6	Novel Topologies of Multi-Linear Silicon Drift Detectors for Position Sensing with Energy Discrimination
	A. Castoldi, C. Guazzoni, D. Mezza, R. Hartmann and L. Strueder
N41-1	Scintillation Properties of Ce Doped Cs ₂ LiLaBr _{6-x} Cl _x 1963
	<u>U. Shirwadkar</u> , R. Hawrami, J. Glodo, E. van Loef and K. Shah
N41-2	Comparison of Different Cs ₂ LiYCl ₆ :Ce Crystals: Energy Resolution and Pulse Shape Dependences on Temperature
	C. Plettner, F. Scherwinski, G. Pausch, R. Lentering, Y. Kong, A. Kreuels, M. Neuer and J. Stein
N41-3	Bismuth-Loaded Plastic Scintillators for Gamma Spectroscopy and Neutron Active Interrogation 1972 N. Cherepy, R. Sanner, T. Tillotson, S. Payne, P. Beck, S. Hunter, L. Ahle and P. Thelin
N41-4	Advanced Plastic Scintillators with Pulse Shape Discrimination1974
	E. V. Van Loef, G. Markosyan, U. Shirwadkar and K. S. Shah
N41-5	Study and Understanding of n/γ Discrimination Processes in Organic Plastic Scintillators1978 P. Blanc, M. Hamel, L. Rocha, S. Normand and R. Pansu
N41-7	lead Based Halide Crystals for the HHCAL Detector Concept·······1983
,	R. Mao, F. Yang, L. Zhang, RY. Zhu, X. Chen, H. Li, G. Ren and D. Shen
N41-8	A Study of CaMoO4 Crystals for the AMoRE Experiment1987
	<u>J. H. So</u> , on behalf of the AMoRE collaboration
N42-2	A Neutron Flux Monitor for a Reactor Neutron Beam Facility

N42-4	An EUDET/AIDA Pixel Beam Telescope for Detector Development
N42-6	ELIMED a New Concept of Hadrontherapy with Laser-Driven Beams
N43-1	Evolving LHC Data Processing Frameworks for Efficient Exploitation of New CPU Architectures
N43-2	Chest CT Automatic Analysis for Lung Nodules Detection Implemented on a GPU Computing System
N43-3	CMS Storage Federations
N43-4	A Visualization Application on Mobile Devices for Geant4-Based Radiotherapy Simulation2016 A. Kimura, S. Tanaka, K. Hasegawa and T. Sasaki
N43-6	Design and Development of the Software and Computing Framework for the L1/L2 Online PC Farm of the NA62 Experiment at CERN 2019 J. Kunze, R. Fantechi, G. Lamanna, M. Sozzi and R. Wanke
N43-8	The ZEUS Data Preservation Project
N43-9	A Parallel Framework for the SuperB Super Flavor Factory
N44-4	A Digital Monolithic Active Pixel Sensor Chip in a Quadruple-Well CIS Process2030 Y. Degerli, G. Bertolone, G. Claus, A. Dorokhov, W. Dulinski, M. Goffe, F. GUILLOUX, C. Hu-Guo, K. Jaaskelainen, F. Morel, F. Orsini, M. Specht and M. Winter
N44-5	A 2.5 μm Pitch CMOS Active Pixel Sensor in 65 nm Technology for Electron Microscopy2036 D. Contarato, P. Denes, D. Doering, J. Joseph, B. Krieger and S. Schindler
N44-6	CMOS MAPS in a Homogeneous 3D Process for Charged Particle Tracking
N44-8	Quantitative Radiolabeled Biomolecule Detection Using a Functionalized CMOS Sensor2048 R. H. Griffin, O. Mozenson, M. Beking, M. DeRosa, G. Lopinski and G. Tarr
N45-1	The NA62 RICH Detector 2053 A. Cassese, on behalf of the NA62 RICH Working Group: CERN, INFN Firenze, INFN Perugia

N45-2	A Readout for Electroluminescence TPCs based on Avalanche Photodiodes
N45-5	Mitigation of Anomalous APD Signals in the CMS Electromagnetic Calorimeter
N45-8	New Development of Silicon Drift Detectors for Gamma-Ray Spectroscopy ————————————————————————————————————
N46-5	LCIO 2.0: an Experiment-Independent Event Data Model and Persistency Format for HEP2075 N. Graf, T. Johnson, F. Gaede, J. McCormick, J. Engels and S. Aplin
N46-6	CMS Computing Experience at LHC2080 D. Bonacorsi
JNM-1	Measurement of the Physical PSF for an Integrated PET/MR Using Targeted Positron Beams2089 C. C. Watson
JNM-2	EndoTOFPET-US: a Novel Multimodal Tool for Endoscopy and Positron Emission Tomography 2096 E. Garutti, on behalf of the EndoTOFPET-US collaboration
JNM-3	First In-Vivo Images with the KIT 3D Ultrasound Computer Tomograph 2102 H. E. H. Gemmeke, L. Berger, M. Birk, R. Dapp, T. Hopp, B. Kohout, E. Kretzek, A. Menshikov, D. Tcherniakovski, M. Zapf, N. V. Ruiter and W. Kaiser
JNM-8	Modeling Considerations for Improving Accuracy of a Proton Therapy Beam with GEANT42107 S. R. Barnes, G. A. McAuley, A. J. Wroe and J. M. Slater
M02-3	Design Concept of World's First Preclinical PET/MR Insert with Fully Digital Silicon Photomultiplier Technology
M02-5	Event-by-event Respiratory Motion Correction for PET with 3-Dimensional Internal-external Motion Correlation ————————————————————————————————————
M03-1	A Prototype Detector for a Novel High-Resolution PET System: BazookaPET2123 R. Park, B. W. Miller, A. K. Jha, L. R. Furenlid, W. C. J. Hunter and H. H. Barrett
M03-3	Timing Performance Comparison of P-on-N and N-on-P Silicon Photomultipliers
M03-4	Respiratory tracking using EDR for list-mode binning in cardiac emission tomography: Comparison with MRI heart motion measurements

	N. Fuin, S. Pedemonte, S. Arridge, S. Ourselin and B. H. Hutton
	Adaptive Optimization of Slit Width for a Slit-Slat Collimator
	AL-Reconstruction for TOF-PET with Simultaneous Estimation of the Attenuation Factor. L. Nuyts, A. Rezaei and M. Defrise
	Fast Positron Range Calculation in Heterogeneous Media for 3D PET Reconstruction 2. Szirmay-Kalos, M. Magdics, B. Toth, B. Csebfalvi, T. Umenhoffer, J. Lantos and G. Patay
	patially Varying Regularization for Motion Compensated PET Reconstruction
	Unifying Global and Local Statistical Measures for Anatomy-Guided Emission Tomograph
	Reconstruction
	Reconstruction of Uniform Sensitivity Emission Image with Partially Known Axial Attenu
١	7. Y. Panin, M. Defrise, J. Nuyts, A. Rezaei and M. E. Casey
	An Algorithm for Modeling Non-Linear System Effects in Iterative CT Reconstruction K. J. Little and P. J. La Riviere
S	Employing Line-Laser Illumination for 3D Fluorescence Imaging and Tomography in a Tr PECT-CT-OT Imaging System
(Characterization of a Small-Animal High-Purity Germanium SPECT System
	Comparison of Two Small Animal PET Scanners: Pinhole Collimation vs. Electronic
N	Collimation M. D. Walker, R. M. Ramakers, S. Blinder, K. Dinelle, M. Shirmohammad, F. van der Have, M. Goorden, F. J. Beekman and V. Sossi
	Evaluation of Easily Implementable Inter-Crystal Scatter Recovery Schemes in High-Resol
Ĺ	. Clerk-Lamalice, M. Bergeron, C. Thibaudeau, R. Fontaine and R. Lecomte
	Cowards Using a Monolithic Active Pixel Sensor for In-Vivo Beam Monitoring of Intensit
	Modulated Radiotherapy

[06-4	Measurement-Based Kilo-Voltage Beam Characterization and Dose Quantification for Radiotherapy Image Guidance
	K. McMillan, A. Michailian and D. Ruan
(06-5	Comparison Study of RPC and Crystal Based PET Systems for Hadron Therapy Monitoring2212 F. Diblen, H. Rohling, I. Torres-Espallardo, P. Solevi, J. Gillam, S. Espana, S. Vandenberghe, D. Watts, F. Fiedler and M. Rafecas
06-6	PRIMA Proton Imaging for Clinical Application — 2218 C. Talamonti, M. Bruzzi, M. Bucciolini, G. A. P. Cirrone, C. Civinini, G. Cuttone, D. Lo Presti, S. Pallotta, N. Randazzo, M. Scaringella, V. Sipala, C. Stancampiano, M. Zani, M. Carpinelli, F. Romano and E. Vanzi
7-4	Myocardial Blood Flow from Dynamic PET using Independent Component Analysis2222 A. Karpikov, H. Tagare, T. Mulnix, JD. Gallezot, A. Sinusas, C. Liu and R. E. Carson
07-5	Novel Parametric PET Image Quantification Using Texture and Shape Analysis
07-6	Bilateral Filter for Image Derived Input Function in MR-BrainPET
) 7-7	Fully-Automated Segmentation of the Striatum in the PET/MR Images Using Data Fusion2235 I. S. Klyuzhin, M. Gonzalez and V. Sossi
)7-8	Realtime Markerless Rigid Body Head Motion Tracking Using the Microsoft Kinect2241 P. J. Noonan, J. Howard, T. F. Cootes, W. A. Hallett and R. Hinz
) 8-1	Hybrid GATE: a GPU/CPU Implementation for Imaging and Therapy Applications
08-3	Subsampled Fisher Information Matrix for Efficient Estimation of the Uncertainty in Emission Tomography
08-5	4D Mathematical Observer Models for the Task-Based Evaluation of Gated Myocardial Perfusion SPECT Images
8-6	Comparison of TOF and Non-TOF Iterative Reconstruction at Low Statistics
)8- 7	A Method to Achieve Spatial Linearity and Uniform Resolution at the Edges of Monolithic Scintillation Crystal Detectors for PET
08-8	Imaging Performance of DOI Measurable PET Systems for Breast Imaging: Monte Carlo Simulation Studies

M09-1	Enhancement of Spatial Resolution in Iterative CT Reconstruction by Using Sinogram Preprocessing Filters
	L. Fu, C. Kerkil and B. De Man
M09-2	Lung Attenuation Coefficient Estimation Using Maximum Likelihood Reconstruction of Attenuation and Activity for PET/MR Attenuation Correction
M09-3	Use of Scattered Coincidences for Emission-Based Estimation of Attenuation Map in PET2285 Y. Berker, F. Kiessling and V. Schulz
M09-5	Higher Order Scattering Estimation for PET
M09-6	CT Reconstruction from Few-Views by Anisotropic Total Variation Minimization2295 M. Debatin, P. Zygmanski, D. Stsepankou and J. Hesser
M09-7	Improved Statistics Based Positioning Scheme for Continuous Thick Crystal PET Detectors2297 W. Yonggang, C. Xinyi and L. Deng
M09-9	Fast Dynamic Reconstruction Algorithm with Joint Bilateral Filtering for Perfusion C-Arm CT···2304 M. T. Manhart, M. Kowarschik, A. Fieselmann, Y. Deuerling-Zheng and J. Hornegger
M09-10	Ray-by-Ray Noise Weighting in a Filtered Backprojection Algorithm2312 G. L. Zeng and A. Zamyatin
M09-11	An Image Reconstruction That Preserves the Regional Physiological Variation of Radioactivity Concentration
M09-12	Metal Artifact Reduction with DCT-Domain Gap-Filling Method
M09-13	Median Solution and Noise Sorting, a Reconstruction Algorithm for Emission Tomography with Large Hole Collimator
M09-15	Reconstruction of PET Data Acquired with the BrainPET Using STIR2327 L. L. Caldeira, C. Weirich, P. Almeida and H. Herzog
M09-16	Analytic Reconstruction of the Attenuation from 3D Time-of-Flight PET Data2330 A. Rezaei, J. Nuyts and M. Defrise
M09-17	GISTA Reconstructs Faster with a Restart Strategy
M09-20	Evaluation of HYPR De-Noising with MAP Reconstruction in Small Animal PET Imaging2339 <u>JC. (. Cheng</u> and R. Laforest
M09-21	Zipline: a Fast Update Scheme for Reconstruction with Separable System Models2343 T. Benson, L. Fu and B. De Man

M09-22	Detector Response Correction for 3D PET Using Bayesian Modeling of the Location of
	Interaction 2348 A. Sitek and A. Andreyev
M09-23	Impact of Tracer Distribution, Count Level, Iterations and Post-Smoothing on PET Quantification Using a Variously Weighted Least Squares Algorithm
M09-25	Accelerated Barrier Optimization Compressed Sensing (ABOCS) Reconstruction: Performance Evaluation for Cone-Beam CT
M09-26	Dual-Energy CT Reconstruction Based on Dictionary Learning and Total Variation Constraint 2358 L. Li, Z. Chen and P. Jiao
M09-27	A Reweighted Total Variation Minimization Method for Few View CT Reconstruction in the Instant CT
M09-28	Motion Registration and Correction Based Iterative Reconstruction Method for Instant CT2366 M. Chang, L. Li, Z. Chen, Y. Xiao and G. Wang
M09-29	Deconvolution for Limited-View Streak Artifacts Removal: Improvements upon an Existing Approach
M09-30	Rebinning of Conical Projection Data in Compton Imaging
M09-31	GPU-Accelerated Exact Strip Integrals for 2-D Iterative Reconstruction in Emission Tomography2377 VG. Nguyen and <u>SJ. Lee</u>
M09-32	A First-Order Primal-Dual Reconstruction Algorithm for Few-View SPECT2381 P. A. Wolf, J. H. Jorgensen, T. G. Schmidt and E. Y. Sidky
M09-33	Evaluation of Reconstructed Images on the Micro-CT System Using Total Variation Minimization 2386 DH. Kim, HJ. Kim, CL. Lee, PH. Jeon, SJ. Park and YS. Kim
M09-35	Multi-Segment Limited-Angle Image Reconstruction via a BM3D Filter
M09-37	Running Prior for Patient Motion Correction in Low-Dose 3D+Time Interventional Flat Detector CT
M09-40	List-mode TOF PET reconstruciton by estimating event coordinates
M09-41	Tensor-Based Low Rank Multi-Energy CT Reconstruction from Few-View Projection Data2407 D. Jiang, L. Li, Z. Chen, G. Wang and H. Gao

M09-42	Multi-Energy CT Reconstruction Based on Low Rank and Sparsity with the Split-Bregman Method (MLRSS)
	J. Chu, <u>L. Li</u> , Z. Chen, G. Wang and H. Gao
M09-43	Efficient 2D Filtering for Cone-Beam VOI Reconstruction 2415 Y. Xia, A. Maier, F. Dennerlein, H. G. Hofmann and J. Hornegger
M09-44	Dose Limitations for the Estimation of Functional Cardiac Parameters in Rodents
M09-47	Cardiac Perfusion Imaging of Small Rodents Using Cone-Beam Micro-CT
M09-50	A Novel Partial Volume Effects Correction Technique Integrating Deconvolution Associated with Denoising Within the PET Image Reconstruction Process
M09-51	Reconstruction of Dose Distribution in in-Beam PET for Carbon Therapy2433 K. Kim, J. Bae, S. Bae, K. Lee, Y. Chung and J. Joung
M09-52	Bunched Sparse-View CT Using a Moving Multi-Slit Collimator
M09-54	On Lesion Detectability by Means of 300ps-FWHM TOF Whole-Body RPC-PET: an Experiment-Based Simulation Study
M09-55	Uniform Resolution List Mode Reconstruction for the HRRT
M09-56	Effects of Discrete Versus Continuous Prior Image in Sparse-View CT2449 S. Abbas and S. Cho
M09-58	Distributed-Shared Memory Computed Tomography
M09-59	A Comparison Study of Low-Dose CT Image Reconstruction Strategies by Adapted Weighted Total Variation Regularization
M09-60	FPGA-Based Time-to-Digital Converter for Time-of-Flight PET detector
M09-61	A Silicon Photomultiplier Signal Readout Using Transmission-line and Waveform Sampling for Positron Emission Tomography 2466 H. Kim, CT. Chen, H. Frisch, A. Ronzhin, E. Ramberg, S. Los, P. Murat, S. Majewski and C M. Kao

M09-62	A Study on the Optimal Sampling Speed of DRS4-based Waveform Digitizer for Time-of-flight Positron Emission Tomography Application
M09-63	Improved Compressed Sensing Multiplexing PET Readout
M09-64	PET Data Acquisition (DAQ) System Having Scalability for the Number of Detectors2475 M. Nakazawa, J. Ohi, T. Furumiya, T. Tsuda, M. Furuta, M. Sato and K. Kitamura
M09-65	FPGA-Based Singles and Coincidences Processing Pipeline for Integrated Digital PET/MR Detectors 2479 P. Gebhardt, B. Weissler, M. Zinke, F. Kiessling, P. K. Marsden and V. Schulz
M09-66	Signal Seperation in Magnetic Particle Imaging
M09-67	A New IC with Level-Crossing ADC Readout Architecture for PET Detector Signals2486 F. W. Y. Lau, H. H. Choi, M. A. Horowitz and C. S. Levin
M09-68	Reconstruction of Gated Dynamic Cardiac SPECT Data Using Spatiotemporal Basis Functions2489 U. Shrestha, F. Alhassen, E. H. Botvinick, Y. Seo and G. T. Gullberg
M09-69	A Mathematical Formulation of the Single-Pinhole Transform and Asymptotic Properties in Fourier Space
M09-70	Automated Hemochromatosis Spectra Analysis Using Neutron Stimulated Emission Tomography2497 Q. Magana, A. Kapadia, G. Agasthya and S. Balinskas
M09-71	Efficient Optimization for Adaptive SPECT Systems Based on Local Shift-Invariance2501 L. R. V. Pato, S. Vandenberghe and R. Van Holen
M09-72	Filtered Sampling for PET
M09-74	Position Dependent Attenuation Artifacts with a Multi-Pinhole Dedicated Cardiac Camera2515 R. G. Wells
M09-75	Evaluation of Two PET Motion Correction Techniques for Simultaneous Real-Time PET-MR Acquisitions Using an MR-Derived Motion Model
M09-76	One-Pair Measurement System for Efficient Imaging Performance Evaluation of Prototype DOI-PET Detectors
M09-77	A Real Time Motion Correction Technique for a Small-Field Gamma-Camera System2526 M. Zioga, M. Mikeli, AN. Rapsomanikis and E. Stiliaris

M09-78	A Fast Tracker Data Acquisition System for pCT
M09-80	An Adaptive Method for Triggering, Event Validation and Pulse Pile-up Recovery in PET2532 Z. Gu, D. L. Prout and A. F. Chatziioannou
M09-83	Design and Implementation of Scalable DAQ Software for a High-Resolution PET Camera·······2537 U. Yoruk, A. Vandenbroucke, P. D. Reynolds and C. S. Levin
M10-1	Initial Validation of a Complete GATE Model of the Siemens Inveon Trimodal Imaging System ·2540 SH. Lee, J. Gregor and D. R. Osborne
M10-2	Initial Assessment of the Monte-Carlo Simulation of SPECT Recording with the New Region-Centric CZT DSPECT Camera
M10-4	Validation of GATE Monte Carlo Simulations of the Philips Gemini TF and TruFlight Select PET/CT Scanners Based on NEMA NU2 Standards
M10-5	New Functionalities of SINDBAD Simulation Software for Spectral X-Ray Imaging Using Energy Resolving Detectors
M10-6	Enhanced Model of Quantum Efficiency for the Optical Simulation of Photodetectors2555 C. Ocsovaine Steinbach, F. Ujhelyi and E. Lorincz
M10-8	Obtaining Patient-Specific Dose Estimates in Nuclear Medicine Studies
M10-9	Monte Carlo Nuclear Models Evaluation and Improvements for Real-Time Prompt Gamma-Ray Monitoring in Proton and Carbon Therapy
M10-10	Enhancing the Efficiency of a Field Free Line Scanning Device for Magnetic Particle Imaging2566 M. Erbe, T. F. Sattel, T. Knopp and T. M. Buzug
M10-11	Simulation of the Effects of Multiplexing in Multi-Pinhole SPECT Using Stacked Si-HPGe Detectors
M10-14	FDG and PIB Biomarker PET Analysis for the Alzheimer's Disease Detection Using Association Rules
M10-16	Design and Fabrication of Endoscope-Type Compton Camera and Its Real Time Imaging System

M10-17	Development of an in-Situ Radiotracer Concentration Measurement System Using Compact Pixilated LuAG-APD Gamma-Ray Detector Module 2585 A. H. Malik, K. Shimazoe and H. Takahashi
M10-18	Optical Simulation of a 9x9 LYSO Block Detector with PQS Technology Using GATE2590 P. Fan, J. Chen, Q. Wei, T. Xu, Y. Xia, S. Wang, Y. Liu and T. Ma
M10-19	Stationary SPECT with Multi-Layer Multiple-Pinhole-Arrays
M10-20	Modular miniPET: a Comparison between 10 and 12 Detector Modules
M10-21	Simulation Study of Real-Time Tumor Tracking by OpenPET Using the 4D XCAT Phantom with a Realistic ¹⁸ F-FDG Distribution
M10-22	Modeling of 3D Gamma Interaction Position in a Monolithic Scintillator Block with a Row-Column Summing Readout
M10-23	Optical Imaging Simulation Using GATE2614 V. Cuplov, on behalf of the OpenGATE collaboration
M10-24	Analytic Response Functions in Compound Semiconductor Detectors
M10-25	Attenuation-Based Dynamic CT Beam-Shaping Filtration in Dependence of Fan and Projection Angle: Evaluation of a New Method for Radiation Exposure Reduction by Monte-Carlo Simulation of Spatial Dose Distribution 2625 W. Stiller, S. Veloza and HU. Kauczor
M10-26	Analytical Modeling and Implementation of Detector Response for Fully 3D Computer Simulation and Image Reconstruction of an MRI Compatible PET Insert with a Dual-layer Offset Crystal Design ————————————————————————————————————
M10-28	 X. Zhang, V. Sossi, G. Stortz, C. J. Thompson, F. Rtiere, P. Kozlowski and A. L. Goertzen A Dynamic Phantom to Assess the Effect of Motion in Cardiac PET Studies
M10-29	A Method for Measuring Time-of-Flight Resolution of Positron Emission Tomography Scanner ·· 2643 X. Niu, H. Ye, D. Gagnon and W. Wang
M10-30	Development of a Collimator Representation in the TITAN Transport Code for SPECT Simulation
M10-32	Scatter Fraction, Count Rates, and Noise Equivalent Count Rate of an RPC-PET TOF System: Simulation Study Following the NEMA NU2 2001 Standards

M10-33	Digitization and Visibility Issues in Flat Detector CT: A Simulation Study 2661 M. Knaup, L. Ritschl and M. Kachelriess
M10-34	Simulation of Liquid Xenon Time Projection Chambers and 3γ Camera with GATE2667 A. F. Mohamad Hadi, WT. Chen, JP. Cussonneau, J. Donnard, S. Duval, O. Lemaire, J. Masbou, E. Morteau, T. Oger, L. Scotto Lavina and D. Thers
M10-35	Image Resolution Effects in Maximum-Likelihood TOF PET Reconstruction: Study of Reconstruction and Object Influences
M10-38	Simulation Studies with SiPM Arrays and LYSO Crystal Matrix Analyzing a New Readout Scheme
M10-39	Validation of SimSET Monte Carlo Simulations of the Siemens Biograph mCT PET Scanner 2681 <u>J. K. Poon</u> , M. Dalhbom, J. Qi, S. R. Cherry and R. D. Badawi
M10-40	Optimization of Energy Window and Multiple Event Acceptance Policy for PETbox4 a High Sensitivity Preclinical Imaging Tomograph
M10-41	Validation of Compound Poisson Noise Model for Computed Tomography with Energy-Integrating Detector
M10-42	Estimation of NEC, Scatter Fraction, and Sensitivity of a New MR Compatible Small Animal PET Insert Based on Monte-Carlo Simulation
M10-44	Signal Characteristics Study of Continuous-Scintillator CCD-based Single Photon Counting (SPC) Detector
M10-45	A Fast Monte Carlo-Based Forward Projector with Complete Physics Modeling of Y-90 Bremsstrahlung
M10-46	Optimal Experimentation for Nuclear Medicine Imaging System Design
M10-47	Polyenergetic CT Sinogram Generator 2707 C. Thibaudeau, JF. Pratte, R. Fontaine and R. Lecomte
M10-49	Optimization of Detector Surface for Multi-Pinhole Cardiac SPECT: a NCAT Study2711 S. Agarwal, S. D. Metzler and J. Dey
M10-50	Simulations Investigating the Impact of Depth-of-Interaction in Nuclear Breast Imaging with a Dedicated Germanium Gamma Camera

M10-52	FastMIST: a Fast Molecular Imaging SimulaTor 2723 W. J. Ryder, G. I. Angelis, R. Bashar, R. Fulton, YH. Liu and S. Meikle
M10-54	Hybrid segmentation-atlas method for PET-MRI attenuation correction
M10-56	Bundle Adjustment for Marker-Based Rigid MR/X-Ray Registration
M10-57	Evaluation of the Effect of Magnetic Field on the PET Spatial Resolution and Contrast Recovery Using Clinical PET Scanners and EGS Simulations 2738 IC. (. Cheng and R. Laforest
M10-58	Development of a Small Animal SPECT and CT Dual Function Imager with a Micro-Columnar CsI(Tl) and CCD Based Detector 2742
	X. Deng, T. Dai, C. N. Ionita, A. Jain, A. Panse, D. R. Bednarek, S. Rudin and R. Yao
M10-59	Investigation of Photon Cross-Talk in Simultaneous SPECT-CT Imaging
M10-61	Prototype Integrated System of DOI- PET and the RF-Coil Specialized for Simultaneous PET-MRI Measurements 2750
	<u>F. Nishikido</u> , T. Obata, N. Inadama, E. Yoshida, H. Tashima, M. Suga, H. Murayama and T. Yamaya
M10-64	First Results from the BNL/Penn PET-MRI System for Whole Body Rodent Imaging at 9.4T ·····2753 M. Budassi, M. L. Purschke, J. Fried, T. Cao, S. Stoll, E. Gualtieri, J. S. Karp, P. O'Connor, D. J. Schlyer, C. L. Woody and P. Vaska
M10-65	Integrated PET/SPECT System for Breast Imaging with CdZnTe: Computational Assessment ·····2756 M. E. Myronakis, M. Zvelebil and D. G. Darambara
M10-66	An MR-Compatible Singles Detection and Processing Unit for Simultaneous Preclinical
	PET/MR
M10-67	Deformable Registration for Breast PET-CT and MR Images Based on Perturbation Weighted Feature
	Information 2762 M. Ko, H. Lee, KM. Kim, SK. Joo and K. Lee
M10-68	Evaluation of PET Image Quality and Distortions in Simultaneous Clinical PET/MR2766 S. H. Keller, A. E. Hansen, T. Beyer, F. L. Andersen, T. L. Klausen, J. Loefgren and S. Holm
M10-71	Development of Breast and Tumour Models for Simulation of Novel Multimodal PEM-UWB Technique for Detection and Classification of Breast Tumours
	Glavin, E. Jones and P. Almeida

M10-73	Truncation Completion of MR-Based PET Attenuation Maps Using Time-of-Flight Non-
	Attenuation-Corrected PET Images2773
	H. Qian, R. M. Manjeshwar, S. Ambwani and S. D. Wollenweber
M10-74	PET Performance Evaluation of a Pre-Clinical SiPM Based MR-Compatible PET Scanner2776 <u>I. E. MacKewn</u> , C. W. Lerche, K. Sunassee, R. T. M. de Rosales, A. Phinikaridou, A. Salomon, R. Ayres, C. Tsoumpas, G. M. Soultanidis, T. Schaeffter, P. K. Marsden and V. Schulz
M10-77	Reference Database Driven Statistical Analysis of Automated Frameless CT-MRI Registration Developed for Radiosurgical Investigations ————————————————————————————————————
M10-78	Development of a MR Compatible Brain PET II Using 4-Side Tileable GAPD Arrays2783 J. H. Jung, Y. Choi, J. Jung, S. Kim, H. K. Lim, K. C. Im, HJ. Choe, Y. Huh, K. B. Kim, C. H. Oh, K. M. Kim, J. G. Kim and HW. Park
M10-80	Feasibility Studies of Simultaneous PET and SPECT Dual-Tracer Imaging with a Stationary Multi-Pinhole Collimator Inserted to Animal PET Detector
M11-2	Matched Filter for Event Identification and Processing in PET
M11-3	PET DAQ System for Compressed Sensing Detector Modules
M11-5	MR Image Quality and Timing Resolution of an Analog SiPM based pre-clinical PET/MR Insert
	C. W. Lerche, J. E. MacKewn, R. Ayres, B. Weissler, P. Gebhardt, T. Solf, B. Goldschmidt, A. Salomon, K. Sunassee, P. K. Marsden and V. Schulz
M11-6	Design Considerations for a Partial-Ring, Multi-Modal Compatible, Whole-Body TOF PET Scanner: Flexible PET
M11-8	A Generic PET/MRI Respiratory Motion Correction Approach Using a Generalized Reconstruction by Inversion of Coupled Systems (GRICS) Approach
M12-1	First Evaluations of the Neighbor Logic of the digital SiPM tile
M12-2	Performance Evaluation of a Prototype PET Scanner Using Digital Photon Counters (DPC)2820 <u>C. Degenhardt</u> , P. Rodrigues, A. Trindade, B. Zwaans, O. Muelhens, R. Dorscheid, A. Thon, A. Salomon and T. Frach
M12-3	Performance of Digital Silicon Photomultipliers for Time of Flight PET Scanners2825 R. Marcinkowski, S. Espana, H. Thoen and S. Vandenberghe

M12-4	A New Modular and Scalable Detector for a Time-of-Flight PET Scanner
M12-5	Feasibility Study of an Axially Extendable Multiplex Cylinder PET
M12-6	System Design Considerations for Collimation in a Small-Animal PET Scanner 2838 Y. Li, S. Matej, J. S. Karp and S. D. Metzler
M12-8	Development of Intra-Operative PET Probe for Multi-Modal Endoscope
M13-2	Performance of Fast Timing Silicon Photomultipliers for Scintillation Detectors
M13-5	X'tal Cube Detector Composed of a Stack of Scintillator Plates Segmented by Laser Processing2848 N. Inadama, T. Moriya, Y. Hirano, F. Nishikido, H. Murayama, E. Yoshida, H. Tashima, M. Nitta, H. Ito and T. Yamaya
M13-7	A Short Drift GEM Tracking Detector for Measuring Escaped Positrons in PET
M14-2	Low Dose Interpolated Average CT for PET/CT Attenuation Correction Using an Active Breathing Controller (ABC)
M14-4	Multi-modal Rigid and Non-Rigid Registration for Attenuation Correction in Cardiac SPECT/CT using Emission Scatter to CT conversion
M14-5	Dynamic Assessment of Head Motion Compensation for the HRRT
M15-1	Application of Novel Calibration Scheme Based on Traceable Point-Like ²² Na Sources to Various Types of PET Scanners
M15-2	An Examination of the Effect of Registration Error on PET-FDG Evaluation of Chemotherapy
	Response in Sarcoma 2876 E. Wolsztynski, F. O'Sullivan, S. Roy, J. O'Sullivan and J. F. Eary
M15-3	Enhancing Clinical Utility of Respiratory-Gated PET/CT Using Patient Respiratory Trace Classification
	o. 1c. Dowen, L. 7c. 1 ictec, 7c. 1vi. 1ucosio, C. Liu aliu I. E. Kilialian

M15-4	Acute Stress Studies in Rats by 18FDG PET and SPM 2886 F. Gallivanone, G. Di Girgoli, C. Salvatore, S. Valtorta, M. C. Gilardi, R. M. Moresco and I. Castiglioni
M15-5	An Investigation into Attenuation Artefacts Created by Cochlear Implants in Positron Emission Tomography2890
	J. C. Matthews, D. Balfour, M. Vallance, J. Anton-Rodriguez and K. Green
M15-6	Geometric Jitter Compensation in Cone-Beam CT Through Registration of Directly and Indirectly Filtered Projections
M15-7	Temperature Dependence of the LabPET Small-Animal PET Scanner
M15-9	A Comparison of the Options for Brain Partial Volume Correction Using PET/MRI2902 B. A. Thomas, K. Erlandsson, A. Reilhac, A. Bousse, D. Kazantsev, S. Pedemonte, K. Vunckx, S. Arridge, S. Ourselin and B. F. Hutton
M15-10	Low-Dose Quantitative Cone-Beam CT Imaging in Radiation Therapy2907 T. Niu and L. Zhu
M15-11	On-Line Spatio-Temporal Independent Component Analysis for Motion Correction in Renal DCE-MRI
M15-12	Handling of Bad Pixels on Pixelated Solid State Detectors 2916 C. Bai, R. Conwell, H. Babla, J. Kindem and M. Gurley
M15-13	Experimental Evaluation and Image Reconstruction Based Optimization of the Spatially Variant PSF on the Ingenuity TF PETMR Scanner
M15-14	Isotope Dependent System Matrices for High Resolution PET Imaging2925 F. A. Kotasidis, G. I. Angelis, J. Anton-Rodriguez, J. C. Matthews, A. J. Reader, M. Green and H. Zaidi
M15-15	Metric for Fast Automated Relative Assessment of Motion Correction Methods for Dynamic PET Imaging2929 S. Hafezian, J. Cottitto, A. J. Reader and J. Verhaeghe
M15-16	Generation of Normalization Maps for Pixelated Pinhole SPECT Detectors by Scanning a Uniform Cylinder Phantom
M15-17	Optimization of a Model Corrected Blood Input Function from Dynamic FDG-PET Images of Small Animal Heart in vivo

M15-21	The Effect of Non-rigid Mis-registration in Sequential Quantitative SPECT for Targeted Radionuclide Therapy a Simulation Study
	G. S. P. Mok, E. C. I. Ao, N. Song and E. C. Frey
M15-23	Recursive Bayesian Estimation for Respiratory Motion Correction in Nuclear Medicine Imaging ·2942 R. L. Smith, A. A. A. Rahni, J. Jones and K. Wells
M15-24	Reducing Scanning Time to 50% for 111In-Pentetreotide SPECT When Using Model-Based Compensation
	D. Holmberg, T. Sundstrom, K. Riklund, J. Axelsson, M. Ljungberg and <u>A. Larsson</u>
M15-27	Statistical Decision Making in Emission Tomography Using Emission-Count Posteriors2950 A. Sitek, J. S. Karp, E. Gualtieri, S. McQuaid, MA. Park, M. Foley Kijewski and S. C. Moore
M15-28	Benefits of 3D Scatter Correction for the HRRT - a Large Axial FOV PET Scanner2954 M. Sibomana, S. H. Keller, S. Stute and C. Comtat
M15-29	Random Correction Method for Positron Emission Mammography Using Delayed Coincidence Data
	<u>L. Cao</u> , R. Bugalho, C. Ortigao, J. Varela and J. Peter
M15-30	SinoCor: Inter-Frame and Intra-Frame Motion Correction Tool
M15-31	A Method to Reduce Bias in Iterative Scatter Correction Estimate for PET2967 I. Hong, M. Conti and Z. Burbar
M15-32	CT Data Completion Based on Prior Scans
M15-34	Linear Quantification Correction for Myocardial Perfusion Imaging from X-Ray Coronary Angiography
	J. Yao, T. Sakaguchi, O. Yousuf, J. C. Trost, J. A. C. Lima, T. Ichihara and R. T. George
M15-35	Pipeline for Motion Correction in Dual Gated PET
	P. Schaefers
M15-36	List-Mode Reconstruction for the FOCUS-220 with Motion Correction and Spatially-Variant Probability Density Functions: Application to Awake Monkey Imaging
M15-38	A Study of Count-Rate Dependent Normalization Effect in 3D-PET Data2991 X. Niu, Y. Dong, H. Ye and W. Wang
M15-39	Singles Prompts Randoms: Estimation of Spurious Data Rates in PET2995 <u>I. F. Oliver</u> and M. Rafecas
M15-40	Scatter Estimation Scaling to Acquired Data with All Count Use Based on Discrete Consistency Conditions

M15-41	PET Random Reduction with FOV-Dependent Coincidence Window and Tangential TOF-Mask	
	W. Wang, X. Niu, H. Ye and D. Gagnon	
M15-42	Collimator Optimization for In-111 SPECT Using Performance on a Detection/Localization Task	
	Y. Lu, L. Chen and <u>G. Gindi</u>	
M15-43	Atlas-Based Segmentation Using Passive Contours	
M15-46	Estimation of Mean Lung Attenuation for Use in Generating PET Attenuation Maps3017 S. D. Wollenweber and A. H. R. Lonn	
M15-49	Comparison of 4-Class and Continuous Fat/Tissue Methods for Whole-Body PET Attenuation	
	S. D. Wollenweber, S. Ambwani, A. H. R. Lonn, R. Mullick, D. D. Shanbhag, S. Thiruvenkadam, S. Kaushik, H. Qian and F. Wiesinger	
M15-51	Region-Specific Motion Estimation in Rodent Using PET and MRI Image	
M15-53	Accounting for the Hysteresis of Respiratory Motion of the Heart in Cardiac SPECT and PET Using the Bouc-Wen Model of Hysteresis	
	P. Dasari, A. Konik, M. S. Shazeeb and M. A. King	
M15-54	The Effect of Arm Position on Respiratory Motion of the Heart of the Heart: Implications for Emission Imaging	
	P. Dasari, K. L. Johnson, C. Lindsay and M. A. King	
M15-55	Image Recovery in PET Scanners with Partial Detector Rings Using Compressive Sensing3036 S. M. Valiollahzadeh, T. Chang, J. W. Clark and O. Mawlawi	
M15-56	Image-Based Data Corrections for Positron Emission Mammography 3040 N. C. Ferreira, F. Rodrigues, L. Martins, C. Ortigao, F. Caramelo, L. Mendes, C. S. Ferreira, P. Almeida, M. Castelo-Branco and J. Varela	
M15-57	Performance Assessment of Motion Correction for Different Distributions and Count Levels3044 P. J. Markiewicz, J. C. Matthews and A. J. Reader	
M15-61	Improving Image Quality in Molecular Breast Imaging Using Backscattered Photons	
M15-63	Automated Quantitative Assessment of Myocardial Perfusion in Rodent PET/SPECT Images ······3054 SK. Woo, Y. J. Lee, K. M. Kim, J. W. Yu, K. C. Lee, M. H. Kim, JA. Park, J. H. Kang, B. I. Kim and S. M. Lim	

M15-64	Impact of Extraneous Mispositioned Events on Motion-Corrected Brain SPECT Images of Freely Moving Animals
	G. I. Angelis, W. Ryder, R. Bashar, R. Fulton and S. R. Meikle
M15-65	Optimisation of K-Edge Subtraction X-Ray Imaging Using a Pixellated Spectroscopic Detector ···3063 S. Pani, S. C. Saifuddin, F. I. Ferreira, J. W. Scuffham, P. Stratmann, M. D. Wilson, M. C. Veale, S. Bell, P. Seller, P. J. Sellin and R. J. Cernik
M15-66	Generalized Dynamic PET Inter-Frame and Intra-Frame Motion Correction: Phantom and Human Validation Studies
M15-67	Accelerated Reconstruction for Identifying Image Regions Affected by Rigid Body Movement3079 R. K. Barnett, R. Fulton and S. Meikle
M16-1	Improvements in Image Quality When Using Patient Outline Constraints with a Generalized Scatter PET Reconstruction Algorithm
M16-2	Development and Initial Performance Measurements of TransPET Bio-Caliburn SH1.03090 Q. Xie, L. Wang, J. Zhu, Y. Chen, J. Liu, M. Niu, X. Chen, Z. Wu, D. Xi, Z. Hu, B. Li, Y. Zheng and P. Xiao
M16-3	Analytic Modeling of Software Coincidence Detection in PET
M16-4	Time Multiplexing Using a Static Full-Ring Multi-Pinhole Collimator for Brain SPECT
M16-5	The Influence of Time Sampling Scheme on Kinetic Parameters Obtained from Compartmental Modeling of a Dynamic PET Study - A Monte Carlo Study
M16-8	Comparison of Count Rate Sensitivity Performance for a LSO-TOF System with a Cherenkov Radiation Based PbF2-TOF System 3108 L. A. Eriksson, S. Cho, M. Aykac, C. L. Melcher, M. Conti, M. Eriksson and C. Michel
M16-9	Optical Encoding and Multiplexing of PET Coincidence Events
M16-13	Evaluation of a New Small-Pixel CdTe Spectroscopic Detector in Dual-Tracer SPECT Brain Imaging
M16-14	Optimizing Timing Performance of Silicon Photomultiplier Based Scintillation Detectors3119 <u>JY. Yeom</u> , R. Vinke and C. S. Levin

M16-15	Impact of the Laser-Processed X'tal Cube Detector with 1 mm Isotropic Resolution in PET Imaging3122
	E. Yoshida, Y. Hirano, H. Tashima, N. Inadama, F. Nishikido, T. Moriya, T. Omura, M. Watanabe, H. Murayama, H. Ito and T. Yamaya
M16-16	Development and Performance Evaluation of a Single-Ring OpenPET Prototype 3125 E. Yoshida, S. Kinouchi, H. Tashima, F. Nishikido, Y. Hirano, N. Inadama, H. Murayama, H. Ito and T. Yamaya
M16-17	Development of a MPPC-Based DOI-PET Module with Submillimeter 3-D Resolution
M16-18	Development of a Multi-Pinhole Brain SPECT System with CdZnTe Semiconductor Detectors ··3134 <u>T. Donai</u> , K. Ogawa, Y. Nyui and M. Fukushi
M16-22	TOF Measurements in PET Systems Using FPGAs
M16-23	Evaluation of Very Highly Pixilated Crystal Blocks with SiPM Readout as Candidates for PET/MR Detectors in a Small Animal PET Insert
M16-25	High Position Resolution Gamma-Ray Iimagers Consisting of a Monolithic MPPC Array with Submillimeter Pixelized Scintillator Crystals
M16-26	Microscopic SPECT Imaging with Micro-Ring Apertures and High Resolution Semiconductor Detectors 3153 X. C. Lai, L. Cai and L. J. Meng
M16-27	A New Technique to Systematically Minimize Misregistration Introduced Errors in Cardiac Perfusion Studies with Attenuation Correction
M16-29	Time Delay Correction Method for PET-Based Tumor Tracking
M16-32	Classification of Neurodegenerative Dementia by Gaussian Mixture Models Applied to SPECT Images
M16-34	Design of a Combined Fan and Multi-Pinhole Collimator Combination for Clinical I-123 DaTscan Imaging on Dual-Headed SPECT Systems 3170 M. A. King, G. Zubal, J. M. Mukherjee and R. Licho
M16-35	A MPPC Based Tool for Timing and Spatial Resolution Characterization of PET Detectors3174 E. J. Berg and A. L. Goertzen

M16-36	, 1
	Annihilation Photons 3178
	A. A. Wagadarikar, A. Ivan, S. Dolinsky and D. L. McDaniel
M16-37	Application of HDMI Cables as a Single Cable Solution for Readout and Power Supply of SiPM Based PET Detectors
	A. L. Goertzen, X. Zhang, CY. Liu, P. Kozlowski, F. Retiere, V. Sossi, G. Stortz and C. J.
	Thompson
M16-38	Design of an Optimized Multi-Pinhole Collimator for Dual-Purpose Clinical and Preclinical
	<u>Imaging</u>
M16-41	Sensitivity and Resolution Study of a Small-Field Gamma-Camera System on a Tomographic
	Level
	11. 11. Rapsonianikis, W. Zioga, D. Thanasas, W. Mikeli and D. Stinans
M16-42	Expandable Programmable Integrated Front-End for Scintillator Based Photodetectors
M16-43	Statistics-Based Position Decoding for a Block Detector
M16-45	Studies for Performance Improvement of a Small Animal PET Prototype Based on Continuous LYSO Crystals and SiPM Matrices
M16-47	Improved Visualization of Plaque in Cardiac CT Angiography by Optimal Energy Weighting with
14110 17	Photon Counting Detector: a Simulation Study
	<u>HM. Cho</u> , YN. Choi, SW. Lee, YJ. Lee, HJ. Ryu and HJ. Kim
M16-50	Position Reconstruction in Monolithic Block Detectors3212
	M. Streun, <u>H. Noeldgen</u> , G. Kemmerling and S. van Waasen
M16-51	Energy Response of a Room-Temperature Cadmium Telluride (CdTe) Photon Counting Detector for Simultaneous and Sequential CT and SPECT
M16-52	Multivariate Analysis on the Electric Currents Measured by a transXend Detector for Ultra-Low Dose Exposure X-Ray Diagnosis
M16-54	Simulation Study of Plasma Display Panel with GMD Structure for X-Ray Imaging Detector ······3223 H. Lee, K. Lee, E. Min, S. Eom, H. Park and J. Kang

M16-55	Effect of Gamma Radiation on Potential Ionising Radiation Detectors and Dosimeters Based on
	Quantum Dots3228
	D. E. Leslie, P. R. Hobson, D. R. Smith and R. Baharin
M16-59	Simulation Study to Optimize the Number of Photo-Detection Faces and Inter-Crystal Materials for the Xtal Cube PET Detector
	T. Matsumoto, T. Yamaya, E. Yoshida, F. Nishikido, N. Inadama, H. Murayama and M. Suga
M16-61	Design and Performance of Detector Modules for the Endoscopic PET Probe for the FP7 Project EndoTOFPET-US3236
	E. Auffray, F. F. Ben Mimoun Bel Hadj, K. Doroud, G. Fornaro, B. Frisch, S. Gundacker, P. Jarron, P. Lecoq, T. Meyer, K. Pauwels, N. Brillouet, P. Coudray, M. Paganoni, M. Pizzichemi and M. Vangeleyn
M16-62	Monolithic Crystals on SiPM Arrays in a Prototype System with Depth of Interaction Estimation 3241 <u>I. Cabello</u> , J. E. Gillam, J. F. Oliver, J. Barrio, M. Rafecas and G. Llosa
M16-63	High Energy Gamma-Ray Imaging Using Cherenkov Cone Detection a Monte Carlo Study with Application to a Compton Camera System
M16-64	Evaluation of a Novel Wafer-Scale CMOS APS X-Ray Detector for Use in Mammography3254 A. C. Konstantinidis, Y. Zheng, A. Olivo, K. Bliznakova, M. Yip, T. Anaxagoras, K. Wells, N. Allinson and R. D. Speller
M16-65	Test of a Compton Telescope Prototype Based on Continuous LaBr ₃ Crystals and Silicon
	Photomultipliers 3261 M. Trovato, J. Barrio, J. Cabello, S. Callier, J. Gillam, C. De La Taille, C. Lacasta, M. Rafecas, C. Solaz, V. Stankova, I. Torres-Espallardo, L. Raux and G. Llosa
M16-66	Developing a Compton Spectrometer for Determination of X-Ray Tube Spectra
M16-67	Event Processing for Modular Gamma Cameras with Tiled Multi-Anode Photomultiplier Tubes ·· 3269 E. Salcin and L. R. Furenlid
M16-70	Influence of Misalignment of a Scintillator Array and a Multi-Anode PMT for 4-Layer DOI PET
	Detector
M16-71	Development of a Four-Layer DOI Detector Composed of Zr-Doped GSO Scintillators and a High Sensitive Multi-Anode PMT
	M. Nitta, Y. Hirano, N. Inadama, F. Nishikido, E. Yoshida, H. Tashima, H. Kawai, H. Ito and T. Yamaya
M16-74	Investigation of Cadmium Zinc Telluride Based System as a Room Temperature Planar Imager for Plant Functional Imaging
	<u>J. S. Baba,</u> B. A. Bale, L. F. Scheel, S. M. Davern, T. E. McKnight and L. Fabris

M17-1	Fast Variance Computation for Quadratically Penalized Iterative Reconstruction of 3D Axial CT Images
	S. M. Schmitt and J. A. Fessler
M17-2	Comparisons Motion Correction Methods for PET Studies 3293 I. Hong, Z. Burbar and C. Michel
M17-4	Fast and Accurate Rotator for Rotation-Based Iterative Reconstruction Algorithms
M17-5	Simulated One Pass Listmode for Fully 3D Image Reconstruction of Compton Camera Data·······3298 J. E. Gillam, J. F. Oliver, I. Torres-Espallardo, C. Lacasta, G. Llosa, M. Trovato, J. Barrio, J. Cabello, V. Stankova, C. Solaz and M. Rafecas
M17-6	Joint Segmentation and Quantification of Oncological Lesions in PET/CT: Preliminary Validation or a Zeolite Phantom
M17-9	Improved List-Mode Reconstruction with Area-Simulating-Volume Projector in 3D PET331. H. Ye, X. Niu and W. Wang
M17-10	Count-Regulated OSEM Reconstruction
M17-11	Use of Anatomical Information in a Bayesian Reconstruction with an Edge-Preserving Median Prior
M17-12	Tomographic Image Reconstruction Based on Artificial Neural Network (ANN) Techniques3324 M. Argyrou, D. Maintas, C. Tsoumpas and E. Stiliaris
M17-13	A Comparison Study on KL Domain Penalized Weighted Least-Squares Approach to Noise Reduction for Low-Dose Cone-Beam CT
M17-14	Projector with Realistic Detector Scatter Modelling for PET List-Mode Reconstruction
M17-16	Accelerated Monte Carlo Based Simultaneous ¹²³ I/ ^{99m} Tc SPECT Reconstruction
M17-17	Investigation of Different Compressed Sensing Approaches for Respiratory Gating in Small Animal CT
	J. F. Abascal, A. Sisniega, C. Chavarrias, J. J. Vaquero, M. Desco and M. Abella
M17-19	A Sinogram Resolution Modelling Adapted to the Geometry of the HRRT
M17-21	CT Image Reconstruction Design by Investigation of the Propagation of Hotelling SNR3353 A. A. Sanchez, E. Y. Sidky and X. Pan

M17-22	A Preliminary Investigation of Image Reconstruction with Variable Resolution in Diagnostic CT
	Z. Zhang, J. Bian, X. Han, D. Shi, A. Zamyatin, E. Y. Sidky and X. Pan
M17-23	Constrained TV-Minimization Image Reconstruction from Sparse-View Diagnostic CT Data ······3359 Z. Zhang, X. Han, J. Bian, D. Shi, A. Zamyatin, P. Rogalla, E. Sidky and X. Pan
M17-24	Non-Local Means Methods Using CT Side Information for I-131 SPECT Image Reconstruction 3362 S. Y. Chun, J. A. Fessler and Y. K. Dewaraja
M17-25	GPU-Enabled PET Motion Compensation Using Sparse and Low-Rank Decomposition
M17-27	Automatic Parameter Selection in PET Image Reconstruction Based on No-Reference Image Quality Assessment
	J. L. Herraiz, S. Gabarda and G. Cristobal
M17-29	An Ordered-Subsets Proximal Preconditioned Gradient Algorithm for Total Variation Regularized PET Image Reconstruction
	A. Mehranian, A. Rahmim, M. R. Ay and <u>H. Zaidi</u>
M17-31	Direct Parametric Reconstruction for Dynamic [18F]FDG PET/CT Imaging in the Body3383 F. A. Kotasidis, J. C. Matthews, A. J. Reader, G. I. Angelis, P. M. Price and H. Zaidi
M17-34	Characterizing a Discrete-to-Discrete X-Ray Transform for Iterative Image Reconstruction with Limited Angular-Range Scanning in CT E. Y. Sidky, J. H. Joergensen and X. Pan
M17-35	High Performance Multi-GPU Acceleration for Fully 3D List-Mode PET Reconstruction3390 Z. BAHI, J. BERT, A. AUTRET and D. VISVIKIS
M17-36	Convergence of Iterative Image Reconstruction Algorithms for Digital Breast Tomosynthesis3394 <u>E. Y. Sidky</u> , J. H. Joergensen and X. Pan
M17-37	Joint Estimation of the Activity and the Events of Interaction in SPECT Systems3397 S. Pedemonte, S. Arridge, B. Hutton and S. Ourselin
M17-40	LOR-Interleaving Image Reconstruction for PET with Collimation 3401 Y. Li, S. Matej, J. S. Karp and S. D. Metzler
M17-41	Development and Assessment of Statistical Iterative Image Reconstruction for CT on a Small Animal SPECT/CT Dual-Modality System
M17-42	Total Variation Minimization for in-Beam PET Image Reconstruction
1 v 11/ -4 2	S. Kinouchi, T. Yamaya, H. Tashima, E. Yoshida, H. Ito and M. Suga
M17-43	Development of GPU Based Image Reconstruction Method for Clinical SPECT3415 H. Liu, T. Y. Ma, S. Chen, Y. Q. Liu, S. Wang and Y. J. Jin

M17-45	Fast Cone-Beam-Based LOR Reconstruction for 3D PET
M17-46	A Non-Local Means Regularized Iterative Reconstruction Method for Low-Dose Dental CBCT···3422 <u>J. Hao</u> , L. Zhang, L. Li and K. Kang
M17-47	Metal Artifact Reduction Algorithm for Single Energy and Dual Energy CT Scans3426 A. A. Zamyatin and D. Xu
M17-48	Dynamic 3D PET Reconstruction for Kinetic Analysis Using Patch-Based Low-Rank Penalty3430 K. S. Kim, J. C. Ye, Y. D. Son, Z. H. Cho and J. B. Ra
M17-49	Full Field Spatially-Variant Image-Based Resolution Modelling Reconstruction for the HRRT3434 G. I. Angelis, F. A. Kotasidis, J. C. Matthews, P. J. Markiewicz, W. R. Lionheart and A. J. Reader
M17-50	Image Reconstruction and Signal Detectability in Dual-Head Small-Animal PET3439 YJ. Kao, <u>CH. Kao</u> , Y. Dong, CM. Kao, CT. Chen, W. Wang and CY. Chou
M17-51	Time-of-Flight Image Reconstruction with TV Minimization Constraint for a Dual-Head Small-Animal PET System
M17-53	Shift-Invariant Cone-Beam Reconstruction Outside R-Lines with a Disconnected Source Trajectory
M17-54	Image Representation Using Mollified Pixels for Iterative Reconstruction in X-Ray CT3453 <u>F. Noo</u> , K. Schmitt, K. Stierstorfer and H. Schoendube
M17-56	Iterative Reconstruction Using a Pyramid-Shaped Basis Function
M17-57	Impact of Truncation to the Reconstruction with a Small Number of Projections3461 Y. Mao and G. L. Zeng
M17-58	A Comparison of Data-Driven Methods for Patient Motion Estimation in Cardiac SPECT Imaging
M17-59	PET Image Reconstruction Based on Several Respiratory-Phase Low-Dose CT Images
M17-63	A Pilot Ambi-Cranial PET System for GBM Surgery Guidance: Characterization and Analysis3475 D. Ruan, M. Dahlbom and K. Iwwamoto
M18-2	Gradient Transparent RF Housing for Simultaneous PET/MRI Using Carbon Fiber Composites ·3478 P. M. Dueppenbecker, J. Wehner, W. Renz, S. Lodomez, D. Truhn, P. K. Marsden and V. Schulz
M18-3	Development of an MRI Compatible Digital SiPM Based PET Detector Stack for Simultaneous Preclinical PET/MRI

M18-5	Monte Carlo Simulation of a Dental Positron Emission Tomograph and Image Reconstruction of Scatter and True Coincidence Events
	I. Valastyan, M. Colarieti-Tosti, W. Ren and A. Turco
M18-7	An Algorithm for Automatic Flood Histogram Segmentation for a PET Detector3488 H. Du and K. Burr
M18-9	Calibration Methodology for a Dual-Ended Readout Silicon Photomultiplier Based Depth-of- Interaction PET Detector Module
	W. Xi, J. McKisson, A. G. Weisenberger, S. Lee, M. Taylor, A. Stepanyan and C. Zorn
M18-10	Combined Analog/Digital Approach to Performance Optimization for the LaPET Whole-Body TOF PET Scanner3496
	B. Ashmanskas, Z. S. Davidson, B. C. LeGeyt, F. M. Newcomer, J. V. Panetta, W. A. Ryan, R. Van Berg, R. I. Wiener and J. S. Karp
M18-14	A Position Decoder Circuit for PET Detector with Different Physical Properties3501 <u>I. Jung</u> , Y. Choi, J. H. Jung and S. Kim
M18-16	A Cost-Effective Modular Programmable HV Distribution System for Photodetectors3504 F. W. Lau, JY. Yeom, A. Vandenbroucke, P. D. Reynolds, D. R. Innes and C. S. Levin
M18-17	A Dynamic Single Photon Emission Computed Tomography Myocardial Perfusion Imaging Protocol Using a 4D Spatiotemporal Iterative Reconstruction
M18-18	A Cost-Effective High-Resolution Modular Pixelated Clinical SPECT Detector Based on Small NaI (Tl) Pixels with Medium-Size Single-Anode PMTs, Utilizing Spatial Modulation of Scintillation Light Output
M18-19	A Variable-Pitch Slat Stack for Task-Specific Slit-Slat Collimation
M18-20	Fundamental Performance of a New Planer PEM
M18-21	Angular Viewing Time Optimization for Slit-Slat SPECT
M18-23	Assessing the Performance of C-SPECT Cardiac Tomographer Using GATE-Based Simulations ··3525 <u>I. Strologas</u> and W. Chang
M18-24	First Results from the BNL Plant Imaging System
M18-25	Time-of-Flight PET-MR Detector Development Based on Silicon Photomultiplier

M18-26	Evaluation and Development for Positron Emission Mammography Based on Pr:LuAG Scintillator
	Crystals
M18-28	Development of a New Brain PET Scanner Based on Single Event Data Acquisition
M18-32	Measure PET Detector Performance with the Intrinsic Radioactivity of Scintillator
M18-34	Investigation of Four Phantoms for PET Normalization
M18-39	The Quality Field of View of a Discovery 530c
M18-40	Highly-Integrated CMOS Interface Circuits for SiPM-Based PET Imaging Systems3556 S. Dey, T. K. Lewellen, R. S. Miyaoka and J. C. Rudell
M18-41	Development of a High Resolution Four Layer DOI Detector Using MPPCs for Brain PET3560 <u>T. Omura</u> , T. Moriya, R. Yamada, H. Yamauchi, A. Saito, T. Sakai, T. Miwa and M. Watanabe
M18-43	The AdaptiSPECT Pinhole Aperture
M18-44	First Imaging Result with an Ultrahigh Resolution Stationary MR Compatible SPECT System ···· 3568 <u>L. Cai</u> , Z. Shen, J. Zhang, CT. Chen and L. Meng
M18-45	Impact of Analog IC Impairments in SiPM Interface Electronics
M18-48	Monitoring Respiratory Motion Using Continuous Wave Doppler Radar in a Near Field Multi Antenna Approach
M18-51	Exploration of Brain Activations by Passive Hand Movements and Subject's Intention Based on Kawashira Method Using 3T-fMRI
M18-52	Observation of Activation Brain Areas in Response to the Stimulation by the Right Hand Movement of Kawahira Method Using fMRI
M18-53	Reduction of Scan Time for Phase Image of 3T Magnetic Resonance Imaging to Detect of Calcification
M18-54	Detection of Calcification in Human Breast Using Phase Image of Magnetic Resonance Imaging ·3589 K. Kida, S. Goto, T. Doi, T. Kajitani and Y. Azuma

M18-55	Calibration of the Error from Spectrum Estimation for a Dual Energy CT
M18-57	Accuracy of Linear Attenuation Coefficients Measured with a Photon Counting CT System3596 T. Kobayashi, K. Ogawa, F. Kaibuki, T. Yamakawa, T. Nagano and D. Hashimoto
M18-58	Electron Density Resolution Determination and Systematic Uncertainties in Proton Computed Tomography (pCT)
M18-59	Beam Hardening Correction Using a Attenuation Coefficient Decomposition Approach3602 <u>J. Deng</u> and S. Yan
M18-64	Rotation-Free Computed Tomography with Orthogonal Ray Imaging: First Millimetric Experimental Results
	H. Simóes, M. C. Battaglia, M. Capela, M. C. Lopes and P. Crespo
M18-66	The Property of Signal-to-Noise and its variation over spatial frequency in Differential Phase Contrast
	CT
M18-68	Many-View under-Sampling (MVUS) Technique for Low-Dose CT: Dose Versus Image Quality-3617 T. Lee, J. Min and S. Cho
M18-69	Bladder Wall Motion Compensation Using a New Information-Theoretic Measure
M18-71	A Comparison of Projection Domain Noise Reduction Methods in Low-Dose Dental CBCT3624 <u>J. Hao</u> , L. Zhang, L. Li and K. Kang
M18-72	Reducing Intra Plane Blurring in Dental Panoramas
M18-73	Phantom Experimentation on Infrared and Optical Tomography
M18-74	Limited Angle Geometries Applied to Small Animal X-ray Imaging
M18-75	Noise Simulation for Low-Dose Computed Tomography
M18-76	Comparison of Patient Doses at Different CT Scanners with the Same Acquisition Protocol3644 <u>L. Balkay</u> , A. Oszlanszki and A. Krizsan
M18-78	Smoothly Clipped Absolute Deviation (SCAD) Regularization for Compressed Sensing MRI Using an Augmented Lagrangian Scheme
M18-79	Observable Analysis for Proton Computed Tomography

M18-81	Analysis of Calcium Distribution in Femur of Female Rats Submitted to Different Chemotherapy
	Regimens 3658
	C. B. V. D. Andrade, C. Salata, C. M. D. Silva, S. C. Ferreira-machado, L. P. Nogueira, R. C.
	Barroso, A. P. D. Almeida, D. Braz and C. E. deAlmeida
M18-82	Multi-Resolution Diffusion Tensor Filter for Preserving Noise Power Spectrum in Low-Dose CT
	Imaging3661
	Z. Yang, M. S. Kaplan and <u>A. A. Zamyatin</u>
M18-85	Computed Tomography System Using a New MPGD for Small Animal Imaging with Energy
-	Resolving Capability
	L. F. N. D. Carramate, C. C. A. B. Oliveira, A. L. M. Silva, C. D. R. Azevedo, P. M. M. Correia, A.
	M. da Silva and J. F. C. A. Veloso
M18-89	Evaluation of Convergence Speed of a Modified Nesterov Gradient Method for CT
	Reconstruction
	X. Rui, L. Fu, K. Choi and B. De Man
M18-91	Sparse Angular X-Ray Cone Beam CT Image Iterative Reconstruction Using Normal-Dose Scan
	Induced Nonlocal Prior 3671
	H. Zhang, Z. Bian, J. Ma, J. Huang, Z. Liang and W. Chen
M18-92	Penalized Weighted Alpha-Divergence Approach to Sinogram Restoration for Low-Dose X-Ray
	Computed Tomography
	Z. Bian, J. Ma, L. Tian, J. Huang, H. Zhang, Y. Zhang, W. Chen and Z. Liang
M18-93	A Visibility Optimization Study for Grating-Based X-Ray Phase Contrast Imaging3679
	G. P. Kudielka, K. Mahdi, J. I. Sperl, D. Beque and C. Cozzini
M19-1	List-Mode Reconstruction for the Biograph mCT PET/CT with a Probabilistic Line-of-Response
	Positioning Technique and Motion Correction
	X. Jin, C. Chan, T. Mulnix, C. Liu and R. E. Carson
M19-3	Application of Adaptive Kinetic Modelling for Bias Propagation Reduction in Direct 4D Image
	Reconstruction
	F. A. Kotasidis, J. C. Matthews, A. J. Reader, G. I. Angelis and H. Zaidi
M19-5	Convergent Iterative Algorithms for Joint Reconstruction of Activity and Attenuation from Time-of-
	Flight PET Data
	S. Ahn, H. Qian and R. M. Manjeshwar
M19-6	EM Reconstruction of Dual Isotope PET with Staggered Injections and Prompt Gamma Positron
14117-0	Emitters
	A. Andreyev, A. Sitek and A. Celler
M19-8	4-D Motion Field Estimation by Combined Multiple Heart Phase Registration (CMHPR) for Cardiac
1,117-0	C-Arm Data
	K. Mueller, C. Rohkohl, G. Lauritsch, C. Schwemmer, H. Heidbuechel, S. De Buck, D. Nuyens, Y.
	Kyriakou, C. Koehler and J. Hornegger

M20-1	Basis element decomposition with spectral microCT using multi-layered, multi-colored scintillators	
	D. Modgil, D. Rigie, S. Wang, X. Xiao, P. Vargas and P. J. La Riviere	
M20-2	A Preliminary Investigation of CT-Dose Reduction in SPECT/CBCT	
M20-4	Low Dose Perfusion CT	
M20-5	Asymmetric-Filter Cone-Beam Dual-Energy Computed Tomography 3726 Y. Yamazaki and N. Toda	
M20-6	Task Based Characterization of Spectral CT Performance via the Hotelling Observer	
M20-7	Non-Invasive Image-Guided Brain Access with Gradient Propulsion of Magnetic Nanoparticles···3732 I. N. Weinberg, A. Nacev, A. Sarwar, O. Rodriguez, C. Albanese, B. Shapiro, P. Y. Stepanov, D. Beylin, M. Urdaneta, R. Probst and S. T. Fricke	
M21-4	High-Resolution Anamorphic SPECT Imaging	
M21-5	A 2D Sensitivity Encoded Silicon Photomultiplier (SeSP) for simultaneous high resolution PET/MR scanners	
M21-6	Evaluation of Light Extraction from PET Detector Modules Using Gamma Equivalent UV Excitation 3746 B. Jatekos, A. O. Kettinger, E. Lorincz, F. Ujhelyi and G. Erdei	
M21-8	Small Animal PET with a Clinical PET/CT: Optimizing Image Quality with MAP Reconstruction and Super-Resolution	
M21-9	Comparison of the performance of the photon counting hybrid pixel camera XPAD3 versus the CCD camera DALSA XR-4 for cone-beam micro-CT	
M21-12	Experimental Sub-Millimeter Resolution with a Small-Animal RPC-PET Prototype	
M21-13	Performance Comparison of GENISYS4 and microPET Preclinical PET Scanners	
M21-14	Dual energy microCT for small animal bone-iodine decomposition	

M21-15	X-Ray Dose Quantification for Various Scanning Protocols with the GE eXplore 120 Micro-CT ·3775 <u>F. Bretin</u> , M. A. Bahri, G. Warnock, C. Phillips, A. Luxen, A. Seret and A. Pleneveaux
M21-17	Theranostics Imaging of Tumours Labelled with Gold Nanoparticles: Concept Validation
M21-18	Performance Evaluation of the GE eXplore CT 120 Micro-CT for Various Scanning Protocols ···· 3783 M. A. Bahri, F. Bretin, G. Warnock, A. Luxen, E. Salmon, A. Plenevaux and A. Seret
M21-23	SiPM-Based PET Module with Depth of Interaction
M21-27	Evaluation Detector Module of the miniPET-3 Small Animal PET Scanner 3790 J. Imrek, G. Hegyesi, G. Kalinka, B. Kiraly, J. Molnar, F. Nagy, I. Valastyan, Z. Szabo and L. Balkay
M21-30	New PMT-Quadrant-Sharing Block Detector Development for High Performance TOF PET Applications
	R. Ramirez, <u>Y. Zhang</u> , H. Li, H. Bagheai and WH. Wong
M21-33	Parameter Optimization and Effective Imaging Volume Determination of Helical Scan for a Pinhole Animal SPECT
M21-36	Characterization of Detector Layers from a 1mm³ Resolution Clinical PET System3804 P. D. Reynolds, F. W. Y. Lau, A. Vandenbroucke, D. R. Innes, U. Yoruk and C. S. Levin
M21-41	Slit-Slat Collimator Geometrical Calibration for a PET/SPECT Dual Modality Animal Scanner ··3808 X. Deng, JF. Beaudoin, J. Cadorette, C. Naaman, R. Lecomte and R. Yao
M21-42	Strategies to Achieve More Compact Pulse Width Modulation Circuitry for Silicon Photomultiplier Readout
M21-43	Design of a New Small-Animal SPECT System Based on Rectangular Pinhole Apertures3815 S. D. Metzler, S. C. Moore and MA. Park
M21-46	Multiplexing Strategies for cMiCE PET Detectors
M21-47	Markerless Motion Tracking Enabling Motion Compensated PET in Awake Rats
M21-50	A Comparison of Maximum List-Mode-Likelihood Estimation and Maximum-Likelihood Clustering Algorithms for Depth Calibration in Continuous-Crystal PET Detectors3829 W. C. J. Hunter, T. K. Lewellen and R. S. Miyaoka

M21-51	Complete Scheme for Beam Hardening Correction in Small Animal Computed Tomography3835 <u>C. de Molina</u> , A. Sisniega, M. Desco, J. J. Vaquero and M. Abella
M22-1	Iterative Motion-Compensated Reconstruction for Image-Guided Radiation Therapy3839 M. Brehm, P. Paysan, M. Oelhafen, P. Kunz and M. Kachelriess
M22-2	Optimization of the in-Beam OpenPET Detector for Carbon Beam Irradiation
M22-3	PET Scanning of Ocular Melanomas after Proton Therapy
M22-6	Orthogonal Ray Imaging with Megavoltage Beams: Simulated Results with an Anthropomorphic Phantom3854
	M. C. Battaglia, <u>H. Simões</u> , V. Bellini, E. Cisbani, M. C. Lopes and P. Crespo
M22-7	LYSO Scintillators Coupled to Phototransistors for Orthogonal Ray Imaging: Experimental Results at 4 and 6-MV Linacs
	H. Simóes, M. C. Battaglia, M. Capela, A. Cavaco, P. C. P. S. Simóes, M. C. Lopes, P. J. B. M. Rachinhas, P. Soares and P. Crespo
M22-13	Optimization of Collimator Designs for Real-Time Proton Range Verification by Measuring Prompt Gamma Rays
	P. Cambraia Lopes, M. Pinto, H. Simões, A. K. Biegun, P. Dendooven, D. C. Oxley, K. Parodi, D. R. Schaart and P. Crespo
M22-14	Theoretical and Numerical Analysis of the Single-Ring OpenPET Geometry for in-Beam PET·····3871 <u>H. Tashima</u> , Y. Hirano, S. Kinouchi, E. Yoshida, H. Ito and T. Yamaya
M22-15	Reconstruction from Truncated Projections Using Constrained Total-Variation Minimization Applied to PET for Hadron-Therapy Monitoring
M22-18	Pile-up Correction Techniques for Real-Time Dosimetry in Photon Radiotherapy
M22-20	Prompt Gamma Imaging with a Slit Camera for Real-Time Range Control in Proton Therapy: Experimental Validation up to 230 MeV with HICAM and Development of a New Prototype ·····3883 I. Perali, A. Celani, P. Busca, A. Marone, C. Fiorini, M. Basilavecchia, T. Frizzi, F. Roellinghoff, J. Smeets, D. Prieels, F. Stichelbaut, F. Vander Stappen, S. Henrotin and A. Benilov
M22-22	Detector Design for Range Monitoring in Hadron Therapy by Means of Image Reconstruction ··· 3887 <u>F. Diblen</u> , S. Espana, R. Van Holen and S. Vandenberghe
M22-23	Feasibility of Using Distal Endpoints for in-Room PET Range Verification of Proton Therapy ···· 3890 K. Grogg, X. Zhu, C. H. Min, B. Winey, T. Bortfeld, H. Paganetti, H. Shih and G. El Fakhri
M22-25	A Study of Proton Activation Tracer for Real-Time Dose Monitoring in Radiotherapy3895 <u>T. P. Lou</u> and L. Mihailescu

M22-27	Level Set Based Real-Time Anatomy Tracking
M22-28	A Comparison Between Adaptive Kernel Density Estimation and Gaussian Mixture Regression for Real-Time Tumour Motion Prediction from External Surface Motion3902 F. tahavori, M. Alnowami and K. Wells
M22-30	Closed-Form Kinetic Parameter Estimation Using Wavelets
M22-33	Empirical Mode Decomposition as a feature extraction method for Alzheimer' Disease Diagnosis-3909 J. M. Gorriz
M22-34	Optical Flow Vs Bspline Image Registration for Respiratory Motion Modeling3914 H. J. FAYAD, C. Bakhous, T. Pan and D. VISVIKIS
M22-35	Monotonic Algorithm for Joint Entropy-Based Anatomical Priors in Parametric PET Image
	Reconstruction
M22-36	Adaptive Parametric Kinetic Modelling for Improved Full Field of View Fitting of PET Data ······3925 J. C. Matthews, A. J. Reader, G. I. Angelis, P. M. Price, P. J. Markieiwicz and F. A. Kotasidis
M22-37	NUMERICS: Online Image Registration and Image Comparison Platform3930 G. V. Gerganov, V. Kuvandjiev, I. S. Dimitrova, I. Kawrakow and K. K. Mitev
M22-41	SIFT-Based Motion Registration for Sequence Images of Instant CT
M22-42	A Feasibility Study of High Order Volumetric Texture Features for Computer Aided Diagnosis of Polyps via CT Colonography
M22-44	Intensity Normalization of FP-CIT SPECT in Patients with Parkinsonism Using the Alpha-Stable Distribution
M22-45	Deformable Model-Based PET Segmentation for Heterogeneous Tumor Volume Delineation3947 M. Abdoli, R. A. J. O. Dierckx and H. Zaidi
M22-46	A Fast Surface-Aware 3D Non-Linear Image Registration Algorithm Implemented on a GPU3952 A. Gruslys, R. Ansorge, S. Sawiak and J. Acosta-Cabronero
M22-47	Matching of Irreversibly Deformed Images in Microscopy Based on Piecewise Monotone Subgradient Optimization Using Parallel Processing
M22-48	Low Count PET Sinogram Denoising 3964 S. Peltonen, U. Tuna and U. Ruotsalainen

M22-49	A Multi Resolution and Multi Observation Framework for Multi Modal Medical Images Processing
	And Analysis
M22-50	Accurate Markerless Respiratory Tracking for Gated Whole Body PET Using the Microsoft Kinect
	P. J. Noonan, J. Howard, D. Tout, I. Armstrong, H. A. Williams, T. F. Cootes, W. A. Hallett and R. Hinz
M22-51	Relaxation Time Estimation in MRI F. Baselice, G. Ferraioli and V. Pascazio
M22-52	Evaluation of Time of Flight (TOF) and Point Spread Function (PSF) Reconstructions in the Quantification of Myocardial Blood Flow with 13N Ammonia and PET: Comparison among Reconstructions (Reprojection, OSEM), Software (PMOD and CARIMAS) and Operators3979
	L. Presotto, E. Busnardo, V. Bettinardi, C. Landoni, P. Todeschini, O. Rimoldi, M. C. Gilardi and L. Gianolli
M22-53	Improved Computer-Aided Colonic Polyp Detection Using a Modified SVM Classifier with Adaptive Kernel
M22-54	A Synthetic Image Phantom for Evaluation of the Performance of Numerical Algorithms for Comparison of Noisy Medical Images
M22-55	Direct 4D PET Reconstruction of Parametric Images into a Stereotaxic Brain Atlas for [11C]Raclopride
M22-56	Optimization of High Resolution PET Iterative Reconstruction with Resolution Modeling for Image Derived Input Function
M22-57	Comparing Respiratory and Patient Movement During Dynamic PET
M22-58	Modeling of Human Glioblastoma with Spectral Analysis in 18F-FMISO PET Imaging4009 M. Bentourkia, F. Lamare, M. Allard and P. Fernandez
M22-61	Towards fully automated MR-independent binding potential estimation for PET4011 M. Bieth, P. Gravel, K. Siddiqi and A. J. Reader
M22-64	Enhanced Whole-body PET Parametric Imaging Using Hybrid Regression and Thresholding Driven by Kinetic Correlations
M22-67	Detection of Cardiac Abnormalities from MRI Sequences by Using a Deformable Mesh Model····4028 F. M. Parages and J. G. Brankov

M22-69	Approximation of Voxel-Level Variances from Spatial-Variances for Single Scan PET Data4032 P. J. Markiewicz, J. C. Matthews and A. J. Reader
M22-70	A Novel Edge Protective Adaptive Filter for High Energy X-Ray Imaging Technology4036 Y. Wang, X. Qiu, X. Fan, Y. Xiao and Y. Li
M23-1	TOF-MLAA for Attenuation Correction in Thoracic PET/CT
M23-2	Evaluation of an Atlas-Based MR-Based PET Head Attenuation Correction Using PET/CT & MR Clinical Data 4048 S. D. Wollenweber, S. Ambwani, A. H. R. Lonn, R. Mullick, F. Wiesinger, Z. Piti, G. Novak and M. Fidrich
M23-4	MRI Assisted Motion Correction in Dual-Gated 5D Myocardial Perfusion PET Imaging4054 J. Tang, N. Hall and A. Rahmim
M23-5	A Generic Respiratory Motion Model Based on 4D MRI Imaging and 2D Image Navigators4058 H. J. FAYAD, C. Buerger, C. Tsoumpas, C. Cheze-Le-Rest and D. VISVIKIS
M23-7	Accurate and Consistent Lesion Quantitation with Clinically Acceptable Penalized Likelihood Images
JNMR-2	How Photonic Crystals Can Improve the Timing Resolution of Scintillators 4071 P. R. Lecoq, E. Auffray and A. Knapitsch
JNMR-3	Towards Fragment Distinction in Therapeutic Carbon Ion Beams: A Novel Experimental Approach Using the Timepix Detector
JNMR-6	Fabricating high-resolution and high-sensitivity scintillator arrays using Laser Induced Optical Barriers 4080
NR01-4	H. Sabet, H. Kudrolli, B. Singh and V. V. Nagarkar Liquidmetal Micro-Droplet Arrays Based Bonding 4067 M. Kocsis and M. Ruat
JMR-2	Optimal Architecture of CdZnTe Detectors for Photon Counting, Multispectral Medical X-Ray Imaging: Comparison Between Simulation and Experiment
JMR-3	Characterization of Inter-Detector Effects in a 3-D Position-Sensitive Dual-CZT Detector Modules for PET
JMR-5	Evaluation of a CZT Detection Module Concept for SPECT
R04-2	Design of a Low Noise Readout ASIC for CdZnTe Detector

R04-6	A Study of a Fine Pitched Pixelated CdZnTe Detector with a Digital Waveform Acquisition System.4102 <u>I. Miyamoto</u> and T. Kutter
R04-13	Study of the Polarization Process in TlBr Gamma-Ray Detectors 4106 C. L. Thrall, W. Koehler, Z. He, H. Kim, L. Cirignano and K. Shah
R04-23	Performance of 2-keV Digitizer ASIC: VAD_UM V1.2, for 3-D Position-Sensitive Pixellated Semiconductor Detectors 4109 Y. Zhu, Z. He, S. Mikkelsen and T. M. Johansen
R04-24	200 MeV Proton Radiography Studies with a Hand Phantom Using a Prototype Proton CT
	Scanner
R04-25	Multi-Elemental Segregation Analysis of Thallium Bromide Impurities Purified by the Repeated Bridgman Technique
	R. A. Santos, R. F. Gennari, J. F. T. Martins, M. M. Hamada and <u>C. H. Mesquita</u>
R04-26	Study of Surface Passivation and Contact Deposition Techniques in CdZnTe X-Ray and Gamma-Ray Detectors 4124
	D. E. Jones, <u>S. U. Egarievwe</u> , A. Hossain, I. O. Okwechime, M. L. Drabo, J. Hall, A. L. Adams, S. O. Babalola, G. S. Camarda, A. E. Bolotnikov, W. Chan and R. B. James
R04-27	Dislocation and Defect Structure Around Micro-Indentations and Te Precipitates in CZT4128 V. Babentsov, <u>F. Sizov</u> , J. Franc, P. Fochuk, G. Yang, A. Bolotnikov and R. B. James
R04-28	Characterization of Thallium Bromide Crystals Purified by the Filter Method4131 T. Onodera, K. Hitomi, T. Tada, T. Shoji and K. Mochizuki
R04-30	Grain Growth and Characteristics of Chlorine Doped Thick Polycrystalline CdZnTe Films4135 A. Yoshimatsu, T. Yoshimuta, S. Tokuda, H. Kishihara, M. Kaino, T. Doki, T. Sato and T. Okamoto
R04-32	Charge Amplification in CdZnTe Schottky Barrier Diode Detectors at Alpha-Particles Registration ————————————————————————————————————
R04-38	Through Silicon Via Redistribution of I/O Pads for 4-Side Butt-Able Imaging Detectors4142 P. Seller, S. J. Bell, A. A. Schneider, M. C. Veale and M. D. Wilson
R04-40	Low Energy Characterization of Caliste HD, a CdTe based Imaging Spectrometer
R04-41	Room-Temperature Solid-State Radiation Detectors Based on Spintronics4152 N. Gary, S. Teng, A. Tiwari and H. Yang

R04-43	High Energy Resolution CdTe Schottky Diode γ-Ray Detectors
R04-44	Software for Inclusions Recognition and Analisys 4165 P. Fochuk, L. Dyachenko, S. Ostapov, O. Kopach, A. E. Bolotnikov and R. B. James
R04-52	Concept for a Nanometer-Resolution X-Ray Computed Tomography System for Non-Destructive Testing Based on Room Temperature Semiconductor Detector Modules
R04-54	Adjacent 2-Pixel Event Discrimination in 3-D Position Sensitive Imaging CdZnTe Detectors4175 C. R. Brown, Y. Zhu, H. Yang and Z. He
R04-58	Design of an Integrated Low-Noise Ultra-Fast Charge-Sensitive Micro-Probe for Semiconductor Detectors 4179 A. Pullia, E. Frontini and S. Capra
R04-59	Dynamics of Charge Collection in Pixelated Semiconductor Sensor Studied with Heavy Ions and Timepix
R04-63	Suppression of Interface-Induced Noise by the Control of Electron-Phonon Interactions4188 M. D. Hammig, M. Jeong and I. Kwon
R04-67	A Dual-Mode Readout System for a MR-Compatible Ultrahigh Resolution SPECT/PET System ·4196 <u>J. C. ZHANG</u> , L. Cai, J. H. WANG, ZM. SHEN, FK. TANG and LJ. Meng
R05-1	Visualization of Radioactive Substances with a Si/CdTe Compton Camera
R05-5	Tiled Array of Pilxelated CZT Imaging Detectors for ProtoEXIST2 and MIRAX-HXI
R07-1	MOVPE Growth of Thick Single Crystal CdZnTe Epitaxial Layers on Si Substrate for Nuclear Radiation Detector Development
R07-2	High-Resolution x- and γ-ray Detection Using 4H-SiC n-type Epitaxial Layer
R08-2	Suppressing the Polarization Effect in Hgh Temperature Conditions for an In/CdTe/Pt Detector
R08-4	Study of the Diffusion of Te-Inclusion in CdZnTe Nuclear Detectors in Post-Growth Annealing

R09-2	Long-Term Outdoor Performance Evaluation of Stacked Coplanar Grid (Cd,Zn)Te Detectors by
	Spectroscopic Environmental Radiation Monitoring
R10-3	Probing Defects in a Small Pixellated CdTe Sensor Using an Inclined Mono Energetic X-Ray Micro Beam
	E. Frojdh, C. Frojdh, E. N. Gimenez, D. Krapohl, D. Manueski, B. Norlin, V. O'Shea, H. Wilhem, N. Tartoni, G. Thungstrom and R. M. Zain
R10-4	Temporal Changes of Output Signals from CdTe Radiation Detector Measured by Optical Laser Pulses
	T. Ito, Y. Suzuki, A. Koike, H. Mori, Y. Neo, H. Mimura and T. Aoki
R11-1	Comparative Study of Dislocation Densities in CdZnTe Ingots Grown with Different Carbon Coatings 4241
	W. W. Chan, V. S. Sams, K. H. Kim, A. Kassu and R. B. James
R11-3	Spectroscopic Performance of Recent TlBr Detectors
R12-3	Design and Simulation of a Graphene DEPFET Detector
R16-2	Observations of a Deep-Donor Recharge and Its Influence on Trapping in Detector-Grade CdZnTe
R12-5	PbGa2Se4 Semiconductor for Gamma-Ray Detection
R12-7	Portable Neutron Energy Spectrometer Utilizing Microstructured Semiconductor Neutron Detectors
	B. W. Cooper, D. S. McGregor, S. L. Bellinger, S. R. Bolding, J. K. Shultis, A. Caruso, W. H. Miller, T. J. Sobering, R. G. Fronk, T. M. Oakes, R. Taylor and D. Huddleston
R13-4	Performance of Cd _{0.9} Zn _{0.1} Te Based High-Energy Gamma Detectors in Various Single Polarity Sensing Device Geometries 4266
	S. K. Chaudhuri, R. M. Krishna, K. J. Zavalla, L. Matei, V. Buliga, M. Groza, A. Burger and <u>K. C. Mandal</u>
R14-5	Drift Time Dependent CPG Pulse Height Correction 4271 C. Disch, A. Fauler, A. Zwerger, M. Dambacher, J. P. Balbuena and M. Fiederle
R15-3	Pixelated CdZnTe for Imaging in Medicine: Overall Performance Assessment Using an Advanced Computational Modeling Framework 4276 M. E. Myronakis, M. Zvelebil and D. G. Darambara

R15-6	A New Four-Side Abuttable ASIC for High-Resolution Multi-Energy CT Imaging Detector Arrays	
	M. Clajus, S. Snyder, S. J. Glick, A. Makeev, K. Saha, R. Stinnett, A. Volkovskii, F. Walker and J. McGrath	
He-1-1	Detectors for the European Spallation Source 4283 R. J. Hall-Wilton, C. Hoglund, K. Kanaki, A. Khaplanov, O. Kirstein, T. Kittelmann, B. Nilsson, J. Scherzinger and M. Imam	
He-1-7	A. T. Lintereur, <u>J. H. Ely</u> , R. T. Kouzes, J. L. Rogers and E. R. Siciliano	
He-2-4	Fast Neutron Detections with Cs2NaYCl6	
He-2-5	Investigation on Thermal Neutron Detectors Based on the Gas Electron Multiplier Technology ··4301 A. Pietropaolo, <u>F. Murtas</u> , G. Claps, L. Quintieri, G. Celentano and D. Raspino	
He-2-8	Neutron Response with Different Sized Eu Doped LiCaAlF ₆ Crystals	
HT-2-6	Meeting the Demands of Highly Precise Ion Beam Therapy - How a Flat-Panel Detector can Improve Conformance Tests	
	B. Hartmann, J. Telsemeyer, B. Ackermann, S. Brons, O. Jaekel and M. Martisikova	
HT-2-7	The PRIMA Collaboration: Status of the Development of a Proton Computed Tomography Scanner	
	M. Bruzzi, M. Brianzi, M. Bucciolini, M. Carpinelli, G. A. P. Cirrone, C. Civinini, G. Cuttone, D. Lo Presti, S. Pallotta, C. Pugliatti, N. Randazzo, F. Romano, M. Scaringella, V. Sipala, C. Stancampiano, C. Talamonti, M. Tesi, E. Vanzi and M. Zani	
HT-3-3	Development of a 2D Scintillating Fiber Detector for Proton Radiography	
HT-3-7	Study of the Capabilities of the Timepix Detector for Ion Beam Radiotherapy Applications4324 M. Martisikova, B. Hartmann, K. Gwosch, J. Jakubek, C. Granja and O. Jaekel	
HT-4-1	A Proton Simulator for Testing Implementations of Proton CT Reconstruction Algorithms on GPGPU Clusters	
HT-4-10	Space Carving and Filtered Back-Projection as Preconditioners for Proton Computed Tomography Reconstruction	