

ANIMMA 2021 - Advancements in Nuclear Instrumentation Measurement Methods and their Applications

EPJ Web of Conferences Volume 253 (2021)

Prague, Czech Republic
21 - 25 June 2021

Editors:

**Abdallah Lyoussi
Michel Carette
Rastislav Hodak
Igor Jencic
Patrick Le Du**

**Stanislav Pospisil
Christelle Reynard-Carette
Luka Snoj
Ivan Stekl
Ludo Vermeeren**

ISBN: 978-1-7138-3952-1

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 4.0 International License. License details:
<http://creativecommons.org/licenses/by/4.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2021)

For additional information, please contact EDP Sciences – Web of Conferences at the address below.

EDP Sciences – Web of Conferences
17, Avenue du Hoggar
Parc d'Activité de Courtabœuf
BP 112
F-91944 Les Ulis Cedex A
France

Phone: +33 (0) 1 69 18 75 75

Fax: +33 (0) 1 69 28 84 91

contact-edps@webofconferences.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

NOVEL NEUTRON DETECTOR ASSEMBLY BASED ON SIPM READOUT TO BE COUPLED WITH THE ACTIVE TARGET FOR SPES.....	1
<i>Pino Felix, Delgado Jessica, Mantovani Giorgia, Pancheri Lucio, Fabris Daniela, Fontana Cristiano L., Ruiz Vladimir, Brunelli Davide, Moretto Sandra</i>	
THE DATA ACQUISITION SYSTEM FOR THE ATLAS PHASE-II TILE CALORIMETER DEMONSTRATOR.....	7
<i>Argos Fernando Carrió</i>	
THE MULTI SPECTROMETER FOR MEASUREMENT OF $\hat{\Lambda}$-DECAY PROCESS IN EXOTIC NUCLEI.....	11
<i>Siváček Ivan, Stukalov Sergey, Sobolev Yuri, Testov Dmitry, Smirnov Vladimir, Penionzhkevich Yuri, Zeinulla Zhasulan</i>	
MEASURING THE DELAYED NEUTRONS MULTIPLICITY AND KINETIC PARAMETERS FOR THE THERMAL INDUCED FISSION OF 235U, 239PU AND 233U	17
<i>Geslot Benoit, Sardet Alix, Casoli Pierre, Leconte Pierre, De Izarra Grégoire, Chebboubi Abdelhazize, Kessedjian Grégoire, Méplan Olivier, Doré Diane, Soldner Torsten, Mutti Paolo</i>	
PRODUCTION AND MONITORING OF NEUTRON FLUX BY ACTIVATION DETECTORS	23
<i>Haysak Ivan, Martishichkin Vasyl, Harapko Yevgen, Holomb Robert, Katovsky Karel</i>	
A HIGH SPEED DATA LINK OPTIMIZATION FOR DIGITALIZED TRANSFER TO PROCESSING FPGA.....	27
<i>Collado J., Gonzalez V., Gadea A.</i>	
COMMISSIONING THE ATLAS LIQUID ARGON CALORIMETER PHASE-I UPGRADE	31
<i>Kay Ellis</i>	
FAST TIMING DETECTORS WITH APPLICATIONS IN COSMIC RAY PHYSICS AND MEDICAL SCIENCE	36
<i>Royon Christophe</i>	
METROLOGY OF ACQUISITION CHAINS AND SIGNAL PROCESSING OF LMJ EXPERIMENTS.....	40
<i>Trauchessec Vincent</i>	
DEVELOPMENT OF A REAL-TIME SIGNAL PROCESSING UNIT FOR DIAMOND DETECTORS OF ITER VERTICAL NEUTRON CAMERA	44
<i>Zhuravlev Michael, Nemtcev Grigorii, Nagornyi Nikita, Meshchaninov Sergey, Rodionov Roman, Mironov Andrey, Zvonareva Anzhela, Mironova Ekaterina, Portone Sergey</i>	
DATA ACQUISITION SYSTEM PROTOTYPE OF THE ITER DIAGNOSTIC DIVERTOR NEUTRON FLUX MONITOR TESTING AT RESEARCH NUCLEAR FACILITIES.....	49
<i>Martazov E.S., Paryshkin Yu.A., Selyaev N.A., Fedorov V.A., Vorobev V.A., Dzhurik A.S., Kashchuk Yu.A., Obudovsky S.Yu., Bulavin M.V.</i>	
IN-SITU GAMMA IRRADIATION TESTING OF RADIATION HARDENED CHIPS TILL 1 MGy	54
<i>Geys David, Cao Ying, Van Uffelen Marco, Casellas Laura Mont, Vermeeren Ludo, Gusarov Andrei</i>	
LONG TERM NEUTRON ACTIVATION IN JET DD OPERATION	61
<i>Žohar Andrej, Lengar Igor, Batistoni Paola, Conroy Sean, Ěufar Aljaž, Kierepko Renata, Kos Bor, Loreti Stefano, Mietelski Jerzy W., Nobs Chantal R., Packer Lee W., Pillon Mario, Radulovic Vladimir, Savva Marilia I., Snoj Luka, Stamatelatos Ion E., Štancar</i>	
EXPERIMENTAL STUDY OF ISHTAR THERMOSTATIC IRRADIATION DEVICE FOR THE MARIA RESEARCH REACTOR.....	68
<i>Lipka Maciej, Talarowska Anna, Wojtania Grzegorz, Migdal Marek</i>	
CHARACTERIZATION OF THE X-RAY SPECTRUM OF A LINEAR ACCELERATOR	73
<i>Maulin Mažva, Allinei Pierre Guy, Eck Daniel, Estre Nicolas, Payan Emmanuel, Tisseur David, Kessedjian Grégoire</i>	
CHARACTERIZATION OF NEUTRON EMISSION DURING PULSE MODE OF LOW OUTPUT ELECTRONIC NEUTRON GENERATOR	81
<i>Bily Tomas, Huml Ondrej</i>	
JULES HOROWITZ REACTOR IRRADIATION DEVICES: INSPECTION METHODS PROPOSAL	86
<i>Hillberg Seppo, Baque François, Gaillot Stéphane</i>	
SOME CONSIDERATIONS ON THE ENERGY DEPOSITION DURING A RIA TRANSIENT BASED ON MONTE CARLO SIMULATIONS.....	93
<i>Bartos Julia, Gruel Adrien, Vaglio-Gaudard Claire, Coquelet-Pascal Christine</i>	

NUMERICAL AND EXPERIMENTAL CHARACTERIZATION OF THE REACTION RATES IN THE CORE OF THE CNESTEN'S TRIGA MARK II RESEARCH REACTOR	99
<i>Ghninou H., Gruel A., Lyoussi A., Reynard-Carette C., El Younoussi C., El Bakkari B., Nacir B., Boulaich Y., Bounouira H.</i>	
PISTIL, A REACTIVITY MODULATION DEVICE TO PROBE THE TRANSFER FUNCTION OF THE NUCLEAR REACTOR CROCUS	105
<i>Jiang Yifeng, Geslot Benoit, Lamirand Vincent, Leconte Pierre, Godat Daniel, Braun Laurent, Frajtag Pavel, Coquelet-Pascal Christine, Pautz Andreas</i>	
CAREDas: A COMPREHENSIVE ARCHITECTURE FOR A REDUNDANT AND EVOLUTIVE DATA ACQUISITION SYSTEM FOR JHR REACTOR	111
<i>Leroux Fabrice, Ducobu Lionel, Milleville Frédéric</i>	
3-D THERMAL AND RADIATION-MATTER INTERACTION SIMULATIONS OF A SIC SOLID-STATE DETECTOR FOR NEUTRON FLUX MEASUREMENTS IN JSI TRIGA MARK II RESEARCH REACTOR	116
<i>Valero V., Ottaviani L., Lyoussi A., Ghninou H., Radulovic V., Snoj L., Pungnerè A., Volte A., Carette M., Reynard-Carette C.</i>	
ASSESSMENT OF IRRADIATION PERFORMANCE IN THE JULES HOROWITZ REACTOR (JHR) USING THE CARMEN MEASURING DEVICE	121
<i>Blanchet David, Antony Muriel, Carcreff Hubert, François Sébastien, Guimbal Philippe, Pouchin Bernard</i>	
SENSITIVITY ANALYSIS OF AN ADVANCED TRANSMISSION MEASUREMENT METHOD FOR THERMAL NEUTRONS ABSORBERS DETECTION IN IRRADIATED BERYLLIUM	128
<i>Wróblewska Ma gorzata, Blanchet David, Lyoussi Abdallah, Blaise Patrick, Marcinkowska Zuzanna, Jagielski Jacek, Boettcher Agnieszka</i>	
NEW NEUTRON IMAGING FACILITY DEVELOPMENT AT THE PENN STATE BREAZEALE NUCLEAR REACTOR	133
<i>Kenges Alibek, Unlu Kenan, Beck Daniel</i>	
CABRI TEST EVENTS MONITORING THROUGH THREE MEASUREMENT SYSTEMS	137
<i>Grando Quentin, Lebreton Léna, Chevalier Vincent, Di Salvo Jacques, Eymery Stéphane, Gaillard Claude, Monchalín Nathalie, Guillot Jérôme</i>	
MEASUREMENT OF PROMPT GAMMA FIELD ABOVE THE VR-1 WATER LEVEL	144
<i>Czakoj Tomáš, Koš•ál Michal, Matij Zdenik, Losa Evžen, Šimon Jan, Mravec Filip, Cvachovec František</i>	
DEVELOPMENT OF A WIDEBAND CURRENT AMPLIFIER DEDICATED TO FISSION CHAMBER MEASUREMENT	150
<i>Bisiach Danilo, Barbot Loïc, De Izarra Grégoire, Destouches Christophe, Cargnelutti Manuel, Zorzut Sebastjan</i>	
STUDY REVIEW OF THE CALORRE DIFFERENTIAL CALORIMETER: DEFINITION OF DESIGNS FOR DIFFERENT NUCLEAR ENVIRONMENTS	155
<i>Volte A., Carette M., Lyoussi A., Kohse G., Reynard-Carette C.</i>	
CHARACTERIZATION OF CALORIMETER RESPONSES UNDER LABORATORY CONDITIONS THANKS TO AN OPTIMIZED TRANSIENT THERMAL TEST BENCH	160
<i>Rebad J., Volte A., Carette M., Lyoussi A., Kohse G., Prokopowicz R., Reynard-Carette C.</i>	
CEA-JSI EXPERIMENTAL BENCHMARK FOR VALIDATION OF THE MODELING OF NEUTRON AND GAMMA-RAY DETECTION INSTRUMENTATION USED IN THE JSI TRIGA REACTOR	167
<i>Fausser Clement, Thiollay Nicolas, Destouches Christophe, Barbot Loic, Fourmentel Damien, Geslot Benoit, De Izarra Gregoire, Gruel Adrien, Gregoire Gilles, Domergue Christophe, Radulovic Vladimir, Goricanez Tanja, Ambrozic Klemen, Zerovnik Gasper, Lengar</i>	
REACTOR PULSE OPERATION FOR NUCLEAR INSTRUMENTATION DETECTOR TESTING – PREPARATION OF A DEDICATED EXPERIMENTAL CAMPAIGN AT THE JSI TRIGA REACTOR	175
<i>Radulovic Vladimir, Barbot Loic, De Izarra Gregoire, Peric Julijan, Lengar Igor</i>	
ONLINE OPTICAL REFRACTIVE INDEX MEASUREMENT IN RESEARCH REACTOR CORE	181
<i>Fourneau Gary, Agoyan Marion, Chemol Guy, Ladaci Ayoub, Maskrot Hicham, Destouches Christophe, Fourmentel Damien, Girard Sylvain, Boukenter Aziz</i>	
CONFOCAL CHROMATIC SENSOR FOR DISPLACEMENT MONITORING IN RESEARCH REACTOR	185
<i>Agoyan Marion, Fourneau Gary, Cheymol Guy, Ladaci Ayoub, Maskrot Hicham, Destouches Christophe, Fourmentel Damien, Gérard Sébastien, Gaillard-Groléas Jérôme, Desjacques Matthieu, Girard Sylvain, Boukenter Aziz</i>	
FIRST IN-CORE GAMMA SPECTROSCOPY EXPERIMENTS IN A ZERO POWER REACTOR	190
<i>Pakari Oskari, Lamirand Vincent, Mager Tom, Laureau Axel, Frajtag Pavel, Pautz Andreas</i>	
DESIGN OF A 150-MINIATURE DETECTORS 3D CORE-MAPPING SYSTEM FOR THE CROCUS REACTOR	198
<i>Vitullo Fanny, Lamirand Vincent, Ambroziè Klemen, Braun Laurent, Godat Daniel, Frajtag Pavel, Pautz Andreas</i>	

LOCAL AND HIGH DISTANCE NEUTRON AND GAMMA MEASUREMENTS OF FUEL RODS OSCILLATION EXPERIMENTS	206
<i>Lamirand Vincent, Pakari Oskari, Vitullo Fanny, Ambrožič Klemen, Godat Daniel, Frajtag Pavel, Pautz Andreas</i>	
CALIBRATION OF CFUL01 FISSION CHAMBERS IN THE STANDARD NEUTRON FIELDS OF THE BR1 REACTOR AT SCK CEN	212
<i>Kochetkov Anatoly, Krása Antonin, Borms Luc, Malambu Edouard, Vittiglio Guido, Wagemans Jan, Willems Jeroen</i>	
MEASURING GAMMA DOSES OVER THE MGY-KGY RANGE WITH A SINGLE TYPE OF TLD DETECTOR	215
<i>Gruel Adrien, Sardet Alix, Chaussonnet Vincent, Houdouin-Quenault Maxime, Garnier Daniel</i>	
CHARACTERIZATION OF THE PROTON PULSED BEAM AT CMAM	220
<i>Viñals S., Sánchez-Parcerisa D., Fraile L.M., España S., García G., García-Díaz M., Sánchez-Tembleque V., Udias J.M.</i>	
DESIGN OF AN ACOUSTIC SENSOR FOR FISSION GAS RELEASE CHARACTERIZATION DEVOTED TO JHR ENVIRONMENT MEASUREMENTS	225
<i>Baudry F., Rosenkrantz E., Combette P., Fourmentel D., Destouches C., Ferrandis J.Y.</i>	
HIGH RESOLUTION MEASUREMENTS WITH MINIATURE NEUTRON SCINTILLATORS IN THE SUR-100 ZERO POWER REACTOR	232
<i>Brunetto Edoardo L., Vitullo Fanny, Lamirand Vincent, Ambrožič Klemen, Godat Daniel, Buck Michael, Pohlner Georg, Starflinger Jörg, Pautz Andreas</i>	
NUMERICAL SIMULATIONS IN SUPPORT OF THE DESIGN OF AN ULTRASONIC DEVICE FOR SUB-ASSEMBLY IDENTIFICATION	238
<i>Paumel Kevin, Maurel Tom, Lhuillier Christian</i>	
GAS DETECTION IN SODIUM COOLED FAST REACTORS: DETERMINATION OF A TRANSFER FUNCTION	246
<i>Ding C., Filliatre P., Desgranges L.</i>	
NOVEL MODEL-BASED APPROACH FOR INSTRUMENTATION AND CONTROL OF NUCLEAR REACTORS	251
<i>Ouni Bassem, Aussagues Christophe, Dhouib Saadia, Mraïdha Chokri</i>	
RADIATION HARDNESS TEST OF A SILICON DETECTOR UNDER RADIATION DOSE RATE OF NUCLEAR POWER PLANT FOR IN-CONTAINMENT COOLANT LEAKAGE DETECTION SYSTEM	255
<i>Kim Jongheon, Pak Kihong, Park Junesic, Kim Yong Kyun</i>	
POSITION EVALUATION OF EX-CORE NEUTRON FLUX MEASUREMENT IN NEW TYPE GRAPHITE REACTORS	259
<i>Vilimova Eva, Peltan Tomas, Skoda Radek</i>	
DEVELOPMENT OF A FAST-SPECTRUM SELF-POWERED NEUTRON DETECTOR FOR MOLTEN SALT EXPERIMENTS IN THE VERSATILE TEST REACTOR	263
<i>Goetz K. C., Cetiner S. M., Celik C.</i>	
ANALYSIS OF THE SIGNAL OVER NOISE RATIO OF THE HODOSCOPE DETERMINED BY MONTE CARLO CALCULATION	268
<i>Di Salvo J., Mirota S., Chevalier V.</i>	
THE VINON-LOCA TEST FACILITY: EXPLORING THE LOCA PHENOMENOLOGY THROUGH AN OUT-OF-PILE THERMAL SEQUENCE ON IRRADIATED PRESSURIZED FUEL ROD	274
<i>Biard B., Colin C., Bernard S., Marty V., Volle G., Martin F., Charmasson P., Ronné K., Moysan-Lavoine I., Ferrandis J.-Y., Schoepff V., Amoyal G., Fédérici E.</i>	
LONG-TERM TRANSMISSION CHARACTERISTICS OF CYTOP FIBER EXPOSED TO GAMMA RADIATION	279
<i>Chapalo Ivan, Gusarov Andrei, Kinet Damien, Chah Karima, Nan Ying-Gang, Mégret Patrice</i>	
OPTIMIZED HIGH-TEMPERATURE IRRADIATION-RESISTANT THERMOCOUPLE FOR FAST-RESPONSE MEASUREMENTS	283
<i>Skifton Richard, Palmer Joe, Hashemian Alex</i>	
X-RAY IMAGING CALIBRATION FOR FUEL-COOLANT INTERACTION EXPERIMENTAL FACILITIES	287
<i>Journeau Christophe, Johnson Michael, Singh Shifali, Payot Frédéric, Matsuba Ken-ichi, Emura Yuki, Kamiyama Kenji</i>	
NEUTRON COINCIDENCE MEASUREMENTS AND MONTE CARLO MODELLING OF WASTE DRUMS CONTAINING REFERENCE NUCLEAR MATERIAL	294
<i>Borella A., Rossa R., Boden S., Bruggeman C., Rogiers B., Smets S., Valcke E.</i>	
PEAK AREA CONSISTENCY EVALUATION IN GAMMA SPECTROMETRY	301
<i>Persson Henrik, Phillips Kara</i>	

DESIGN OF 4D DIRECTIONAL RADIATION DETECTOR BASED ON COMPTON SCATTERING EFFECT	306
<i>Max Ghelman, Natan Kopeika, Stenley Rotman, Tal Edvabsky, Eran Vax, Alon Osovizky</i>	
TOWARD UO₂ MICRO/MACRO MACHINING: A LASER PROCESSING APPROACH	311
<i>Doualle Thomas, Reymond Matthieu, Pontillon Yves, Gallais Laurent</i>	
DEVELOPMENT OF UO₂ THERMAL DIFFUSIVITY MEASUREMENT WITH LASER TECHNIQUES	316
<i>Doualle Thomas, Le Guillous Vincent, Klosek Vincent, Onofri-Marroncle Claire, Reymond Matthieu, Gallais Laurent, Pontillon Yves</i>	
QUALIFICATION TEST SYSTEM FOR RADIATION DETECTION DEVICES QUTEST	321
<i>Risse Monika, Clemens Peter, Glabian Jeannette, Schumann Olaf, Koeble Theo, Friedrich Hermann, Berky Wolfram, Bornhoeft Marie Charlotte, Chmel Sebastian</i>	
TESTS OF VARIOUS SCINTILLATOR DETECTORS IN SELECTED MONO-ENERGETIC NEUTRON BEAMS	326
<i>Janědo Aleš, Ěulen Jiři, Mravec Filip, Koš• ěl Michal, Dlhopolěek Daniel, Pirovano Elisa, Nolte Ralf, Cvachovec František, Pœnosil Václav, Matij Zdenik</i>	
DEVELOPMENT OF PROTOTYPE SIMPLIFIED NEUTRON SCATTER CAMERA FOR NUCLEAR SAFEGUARDS APPLICATIONS	330
<i>Harvey Taylor, Engvist Andreas</i>	
µRANIA-V: AN INNOVATIVE SOLUTION FOR NEUTRON DETECTION IN HOMELAND SECURITY	338
<i>Farinelli R., Balossino I., Bencivenni G., Cibinetto G., Felici G., Fiore S., Garzia I., Gatta M., Giovannetti M., Hall-Wilton R., Lai C. C., Lavezzi L., Mezzadri G., Morello G., Paoletti E., Pappalino G., Pietropaolo A., Pillon M., Poli Lener M., Robinson</i>	
TIMEPIX3 DETECTOR NETWORK FOR NUCLEAR WASTE MONITORING	345
<i>Biskup Bartolomej, Bergmann Benedikt, Broulim Pavel, Burian Petr, Malich Milan, Manek Petr, Meduna Lukas, Mora Yesid, Pichoika Martin, Pusman Lukas, Rubovic Peter, Slavicek Tomas, Smolyanskiy Petr</i>	
A COMPARISON OF BOUNDING APPROACH WITH ISOTOPIC CORRECTION FACTORS AND MONTE CARLO SAMPLING IN BURNUP CREDIT METHOD	349
<i>Haroková Pavlína, Lovecký Martin</i>	
STUDY OF NATURAL URANIUM FUEL FOR A NEW REACTOR DESIGN TEPLATOR	353
<i>Peltan Tomas, Vilimova Eva, Skoda Radek</i>	
THE MINI LABYRINTH – A SIMPLE BENCHMARK FOR RADIATION PROTECTION AND SHIELDING ANALYSIS	358
<i>Vrban Branislav, Ěerba Štefan, Osuský Filip, Lůley Jakub, Neěas Vladimír, Katovský Karel, Štastný Ondrej, Gloginjia Marko, Erich Marko, Mravik Źeljko, Petroviae Srdjan</i>	
SORTING FISSION FROM PARASITIC COINCIDENCES OF NEUTRONS AND GAMMA RAYS IN PLASTIC SCINTILLATORS USING PARTICLE TIMES OF FLIGHT	365
<i>Bottau V., Carasco C., Perot B., Eleon C., De Stefano R., Isnel L., Tsekhanovich I.</i>	
UAV PROTOTYPE FOR LOCALIZATION AND IDENTIFICATION OF RADIOACTIVE CONTAMINATION AND EMITTERS	370
<i>Moretto S., Pino Andrades F.E., Delgado J., Fontana C.L., Fabris D., Nebbia G., Turcato M., Brunelli D., Pancheri L., Quaranta A.</i>	
THE GAMMA AND NEUTRON MONITOR COUNTERS FOR THE MICADO PROJECT	375
<i>Finocchiaro Paolo, Cosentino Luigi, Ducasse Quentin, Lo Meo Sergio, Longhitano Fabio, Marchetta Carmelo, Massara Antonio, Pappalardo Alfio, Passaro Giuseppe, Russo Salvatore</i>	
LOCALIZATION OF NUCLEAR MATERIALS IN LARGE CONCRETE RADIOACTIVE WASTE PACKAGES USING PHOTOFISSION DELAYED GAMMA RAYS	380
<i>Delarue Manon, Simon Eric, Péroť Bertrand, Allinei Pierre-Guy, Estre Nicolas, Eck Daniel, Payan Emmanuel, Tisseur David, Gueton O., Ricard Denise, Collot Johann</i>	
STUDY OF NEUTRON BACKGROUND IN ORDER TO IMPROVE RADIOACTIVE WASTE DRUM CHARACTERIZATION	387
<i>Lelaizant Gabrielle</i>	
AN ADVANCED BLIND-TUBE MONITORING INSTRUMENT TO IMPROVE THE CHARACTERIZATION OF SUBSURFACE RADIOACTIVE PLUMES	392
<i>Elisio Soraia, Joyce Malcolm J., Graham James, Greenhalgh Barrie</i>	
ACTIVE DOSIMETRY WITH THE ABILITY TO DISTINGUISH PULSED AND NON-PULSED DOSE RATE CONTRIBUTIONS	399
<i>Makarevich Krystsina, Beyer Roland, Henniger Jürgen, Ma Yuzhen, Polter Sarah, Sommer Marian, Teichmann Tobias, Weinberger David, Kormoll Thomas</i>	

DOSE RATE MEASUREMENTS IN PULSED RADIATION FIELDS BY MEANS OF AN ORGANIC SCINTILLATOR	404
<i>Werner Theresa, Beyer Roland, Biedermann Richard, Gerber Marko, Götze Jürgen, Herzig Philipp, Melzer Vincent, Metzner Elena, Weinberger David, Kormoll Thomas</i>	
DECONVOLUTION METHODS USED FOR THE DEVELOPMENT OF A NEUTRON SPECTROMETER	408
<i>Simonetti Claude-Alexandre, Labalme Marc, Trolet Jean-Lionel, Mary Patrick</i>	
NEW PROBE FOR THE IMPROVEMENT OF THE SPATIAL RESOLUTION IN TOTAL-BODY PET (PROSCRIPT)	415
<i>Ros A., Barrientos L., Borja-Lloret M., Casaña J.V., Muñoz E., Roser J., Udías J.M., Viegas R., Llosá G.</i>	
PLUTONIUM AND AMERICIUM INVENTORIES IN SOIL CORES FROM THE ENGLISH LAKE DISTRICT, CUMBRIA (UK)	420
<i>Madina A., Tighe C., Joyce M. J.</i>	
RADIONUCLIDES CONTAMINATION IN SOIL: EFFECTS, SOURCES AND SPATIAL DISTRIBUTION	424
<i>Olagbaju Peter Oluwadamilare, Wojuola Olanrewaju Bola, Tshivhase Victor</i>	
PARTICLE IDENTIFICATION AND TRACKING BY THE USE OF A PIXEL-BASED SEMICONDUCTOR RADIATION DETECTOR COUPLED WITH VOLTAGE CONTROLLED OSCILLATORS	429
<i>Coulié K., Rahajandraibe W., Ottaviani L.</i>	
A PROTOTYPE OF PCT SCANNER: FIRST TESTS	437
<i>Briz J. A., Posadillo I., Távora V.G., Nácher E., Borge M.J.G., Tengblad O., Perea A., Ortiz A., Ovejas J. D., Viñals S.</i>	
ON TEACHING EXPERIMENTAL REACTOR PHYSICS IN TIMES OF PANDEMIC	441
<i>Malec Jan, Österlund Michael, Solders Andreas, Al-Adili Ali, Jazbec Anže, Rupnik Sebastjan, Raduloviæ Vladimir, Lengar Igor, Snoj Luka</i>	
THE EUROPEAN NUCLEAR EXPERIMENTAL EDUCATIONAL PLATFORM – ENEEP: PROGRESS, PROSPECTS AND REMOTE EDUCATION CAPABILITIES	446
<i>Raduloviæ Vladimir, Jazbec Anže, Snoj Luka, Hašek Ján, Vrban Branislav, ěerba Štefan, Lüley Jakub, Osusky Filip, Sklenka Ľubomír, Miglierini Marcel, Novák Ondřej, Böck Helmuth, Cagnazzo Marcella, Villa Mario, Czifrus Szabolcs, Tormási Attila</i>	
DEVELOPMENT OF ACTIVE-LEARNING UNITS IN NUCLEAR ENGINEERING	453
<i>Egarievwe Stephen U.</i>	
EASY: EDUCATIONAL ALIBAVA SYSTEM	457
<i>García Carmen, Bernabeu José, Herranz Juan, Lacasta Carlos, Lozano Manuel, Martí-García Salvador, Pellegrini Giulio, Ullán Miguel</i>	
DESIGN OF A HIGH-ENERGY AND HIGH-RESOLUTION DETECTOR FOR X-RAY COMPUTED TOMOGRAPHY	463
<i>Maulin Maëva, Eck Daniel, Estre Nicolas, Payan Emmanuel, Sardet Alix, Tisseur David, Kessedjian Grégoire</i>	
PULSE SHAPE SIMULATIONS FOR ORGANIC SCINTILLATION DETECTORS USING GEANT4	467
<i>Holroyd Caroline, Aspinall Michael, Deakin Tom</i>	
PERFORMANCE AND APPLICATIONS OF SILICON CARBIDE NEUTRON DETECTORS IN HARSH NUCLEAR ENVIRONMENTS	471
<i>Ruddy Frank H., Ottaviani Laurent, Lyoussi Abdallah, Destouches Christophe, Palais Olivier, Reynard-Carette Christelle</i>	
THE EFFECT OF THE AGING OF LIQUID ORGANIC SCINTILLATORS USED FOR GAMMA-NEUTRON SEPARATION	478
<i>Janda Jiří, Jánský Jaroslav, Mazánková Věra, Cvachovec František</i>	
DEVELOPMENT OF A POSITION-SENSITIVE FAST SCINTILLATOR (LABR3(CE)) DETECTOR SETUP FOR GAMMA-RAY IMAGING APPLICATION	485
<i>Das Biswajit, Palit R., Donthi R., Kundu A. Md., Laskar S. R., Dey P., Negi D., Babra F. S., Jadhav S., Naidu B. S., Vazhappilly A. T.</i>	
MEASUREMENT AND SIMULATION OF THE NEW LIQUID ORGANIC SCINTILLATOR RESPONSE TO FAST NEUTRONS	491
<i>Jánský Jaroslav, Janda Jiří, Matij Zdenik, Mravec Filip, Koš•ál Michal, Cvachovec František</i>	
SPECTRAL ENHANCEMENT OF A SIPM ARRAY-BASED RADIATION DETECTOR	495
<i>Harn R., Osovizky A., Kadmon Y., Rotman S., Kopeika N., Ghelman M.</i>	
ANALOG PULSE SHAPE DISCRIMINATION BASED ON TIME DURATION AND PULSE HEIGHT	501
<i>Harn R., Osovizky A., Kadmon Y., Manor A., Ghelman M.</i>	

SCANNING OF A DOUBLE-SIDED GERMANIUM STRIP DETECTOR	506
<i>Sharma Arzoo, Palit R., Kojouharov I., Gerl J., Gorska-Ott M., Schaffner H., Habermann T., Saha S., Das Biswajit, Dey P., Donthi R., Naidu B.S., Mandal S., Singh Pushpendra P.</i>	
EXPERIMENTAL AND SIMULATION INVESTIGATION OF MICRO- AND NANO-STRUCTURED NEUTRON DETECTORS	511
<i>Logoglu Faruk, Albert Patrick, Wolfe Douglas, Flaska Marek</i>	
DESIGN AND FIRST TESTS OF THE S3 DETECTOR OF REACTOR ANTINEUTRINOS	518
<i>Slavièková Mária, Belov Vyacheslav, Broulím Jan, Brudanin Victor, Egorov Viatcheslav, Fajt Lukáš, Fomina Maria, Hodák Rastislav, Kazartsev Sergei, Kruliš Zdeník, Macko Miroslav, Mašek Petr, Michálková Danuše, Petro Maroš, Pøidal Petr, Rukhadze Ekaterina,</i>	
A HIGH-GRANULARITY TIMING DETECTOR FOR THE PHASE-II UPGRADE OF THE ATLAS CALORIMETER SYSTEM: DETECTOR CONCEPT, DESCRIPTION AND R&D AND BEAM TEST RESULTS	523
<i>Imam H.</i>	
TOWARDS THE EXPERIMENTAL VALIDATION OF A SMALL TIME-PROJECTION-CHAMBER FOR THE QUASI-ABSOLUTE MEASUREMENT OF THE FISSION CROSS SECTION	529
<i>Chatel Carole, Mathieu Ludovic, Aiche Mourad, Diakaki Maria, Noguere Gilles, Bouland Olivier</i>	
Author Index	