

11th International Nuclear Atlantic Conference (INAC 2024)

**Nuclear Energy: Assuring Energy, Health
and Food**

**Rio de Janeiro, Brazil
6 – 10 May 2024**

Volume 1 of 3

ISBN: 979-8-3313-0342-6

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.

Copyright© (2024) by Associacao Brasileira de Energia Nuclear (ABEN)
All rights reserved.

Printed with permission by Curran Associates, Inc. (2024)

For permission requests, please contact Associacao Brasileira de Energia Nuclear (ABEN)
at the address below.

Associacao Brasileira de Energia Nuclear (ABEN)
Rua Candelária, nº 65, 14º andar - Centro,
Rio de Janeiro (RJ) - CEP 20.091-906
Brazil

Phone: (21) 2266-0480

www.aben-com.br

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

VOLUME 1

ENAN > E01 - DOSIMETRY AND NUCLEAR INSTRUMENTATION

| | |
|--|----|
| OPTICAL COMPUTED TOMOGRAPHY FOR CHEMICAL DOSIMETRY WITH FRICKE XYLENOL GEL | 1 |
| <i>Paulo Dos Santos Tavares, Rafael Diniz, Orlando Rodrigues Junior, Leticia Lucente Campos Rodrigues</i> | |
| RISK OF RADIATION-INDUCED CANCER ON PEDIATRIC PATIENT EXPOSURES IN LATER STAGES OF LIFE | 5 |
| <i>Arthur De Souza Borges Zuchetti Alves, Douglas Gabriel Luz, Lúcio Pereira Neves, Ana Paula Perini, William De Souza Santos</i> | |
| STABLISHMENT OF A QUALITY CONTROL PROGRAM TO PKA METERS | 9 |
| <i>José Neres De Almeida Junior, Orlando Rodrigues Junior, Maria Da Penha Albuquerque Potiens</i> | |
| KINETIC PARAMETER STUDY ON ALOX-520 TLD GLOW CURVES PERFORMED BY DIFFERENT METHODS USING A 195-GC DATASET | 11 |
| <i>André Tavares E Silva, Daniel Silva Calheiro, Luiz Claudio Meira Belo</i> | |
| DEVELOPING AND USING INTERNATIONAL STANDARDS FOR NEUTRON AMBIENT DOSE EQUIVALENT RATE METERS | 13 |
| <i>Radoslav Radev, Miroslav Voytchev, France</i> | |
| DEVELOPMENT OF A SUBMERSIBLE ROBOT (ROV) TO SUPPORT VISUAL INSPECTION IN TRIGA TYPE RESEARCH NUCLEAR REACTORS | 14 |
| <i>Wallacy Viana, Amir Zacarias Mesquita, Thêssa Cristina Alonso, Daniel Silva Calheiro, Wagner Machado, Anna Clara Oliveira Alves, Margarete Cristina Guimarães</i> | |
| DOSIMETRY IN PHANTOMS FOR INTENSITY MODULATED BRACHYTHERAPY | 18 |
| <i>Ana Gabryele Moreira Dos Santos, Adriana Aparecida Flosi, Karina Waiswol Boccaletti, Daniela Da Silva Oliveira, Paulo Victor Dos Santos Tavares, Antônio Cassio Assis Pellizzon, Maria Elisa Chuery Martins Rostelato</i> | |
| ASSESSMENT OF THE VIABILITY OF ANTIMICROBIAL PEPTIDES AS GAMMA IONIZING RADIATION SENSITIVE MATERIALS IN NUCLEAR APPLICATIONS..... | 21 |
| <i>Fabiane Modenese Garbim, Julianna Santos Pereira, João Nilton Da Conceição Bandeira, Marcela Robelo De Lima, Nadja Serrano, Álvaro José Boareto Mendes, Fernando Manuel Araújo Moreira</i> | |
| STATE OF THE ART ON BIODOSIMETRY: AN OVERVIEW OF METHODOLOGIES..... | 25 |
| <i>Paulo Sérgio De Abreu Junior, Claudio Antônio Federico</i> | |
| EXPERIMENTAL VALIDATION OF THE LABSOCS DETECTOR EFFICIENCY SIMULATION..... | 29 |
| <i>Guilherme Soares Zahn, Frederico Antonio Genezini</i> | |

| | |
|---|----|
| APPLICATION OF THE MONTE CARLO TECHNIQUE USING THE GEANT4 TOOLKIT TO COMPUTE THE DOSE UNIFORMITY RATIO IN IRRADIATED PRODUCTS..... | 33 |
| <i>Edson Pereira Da Silva, Amir Zacarias De Mesquita, Thessa Cristina Alonso, Pablo Andrade Grossi</i> | |
| DEVELOPMENT OF A 3D ANTHROPOMORPHIC MAMMOGRAPHY SIMULATOR: PRELIMINARY STUDY | 37 |
| <i>Alexander Firmino Da Silva, Josilene Cerqueira Santos, João Emilio Peixoto, Ademir Xavier Da Silva</i> | |
| A DOSIMETRIC EVALUATION USING THE MONTE CARLO METHOD CONSIDERING GEOMETRIC VARIATIONS OF THE IODINE-125 SEED FOR BRACHYTHERAPY | 41 |
| <i>Henrique Santos De Chico, Lucas Verdi Angelocci, Carlos Alberto Zeituni, Carla Daruich De Souza, Sabrina Spigaroli Sgrignoli, Maria Elisa Chuery Martins Rostelato</i> | |
| COMPARATIVE STUDY OF THERMAL NEUTRON FLUX FROM GOLD FOIL ACTIVATION | 45 |
| <i>Watila Lins Silva, Regio Dos Santos Gomes, Max Dos Santos Ramos, Achilles Astuto, Walsan Pereira Wagner</i> | |
| DOSIMETRIC ANALYSIS OF IODINE-125 SEEDS USING THE FRICKE XYLENOL GEL DOSIMETER | 50 |
| <i>Cristhian Ferreira Talacimon, Priscila Santos Rodrigues, Paulo Victor Dos Santos Tavares, Lara El Hajj Teodoro, Ilca Marli Moitinho Amaral Medeiros, Maria Eduarda Zaganin Rigo, Ana Catarina Koka De Souza Silva, Ana Laura Burin, Orlando Rodrigues Junior, Maria Elisa Chuery Martins Rostelato</i> | |
| DOSE RESPONSE OF FRICKE GEL DOSIMETERS WITH DISTINCT INDICATORS | 53 |
| <i>Iasmin Vieira Nishibayaski, Anna Luiza Fraga Da Silveira, Luiz Cláudio Meira-Belo</i> | |
| STUDY ON RADIOSENSITIZATION USING NANOPARTICLES IN FRICKE XYLENOL GEL DOSIMETERS..... | 57 |
| <i>Priscila Rodrigues, Ana Laura Burin, Ana Catarina Koka De Souza Silva, Cristhian Ferreira Talacimon, Lara El Hajj Teodoro, Maria Eduarda Zaganin Rigo, Paulo Victos Dos Santos Tavares, Wilmmmer Alexander Arcos Rosero, Sabrina Spigaroli Sgrignoli, Maria Elisa Chuery Martins Rostelato</i> | |
| THERMOLUMINESCENT PROPERTIES FOR SILVER-DOPED SODIUM BORATE GLASS..... | 60 |
| <i>Caroline Fernandes, Sonia Hatsue Tatumi, René Rojas Rocca</i> | |
| RE-CHARACTERIZATION OF PNEUMATIC STATION IRRADIATION POSITION OF IEA-R1 REACTOR FOR USE IN K0-INAA METHOD | 64 |
| <i>Renato Semmler, João Pedro De Oliveira Flores, Mauro Da Silva Dias, Marina Fallone Koskinas, Denise Simões Moreira, Ione Makiko Yamazaki, Paulo Sergio Cardoso Da Silva, Vera Akiko Maihara</i> | |
| ACCESSING HIGH DOSES OF GAMMA RADIATION THROUGH FRACTURE PATTERNS IN DRY DROPS OF ACRYLIC-STYRENE EMULSIONS AND MACHINE LEARNING TECHNIQUES..... | 68 |
| <i>Rômulo Pinto Tenório, Fabricio Ramos Da Silva, Clayton Augusto Benevides</i> | |
| STUDY OF THE BEHAVIOR OF 3 MEV PROTON BEAMS ON PMMA: MONTE CARLO SIMULATIONS AND EXPERIMENTAL DATA..... | 71 |
| <i>Júlio José Nogueira Pereira, Flávio Matias Da Silva, Paula Cristina Guimarães Antunes, Julian Marco Barbosa Shorto, Paulo De Tarso Dalledone Siqueira, Tiago Fiorini Da Silva, Cleber Lima Rodrigues, Larissa Otubo, Glauson Aparecido Ferreira, Hélio Yoriyaz</i> | |

| | |
|--|-----|
| A STUDY OF A H ₂ O-MODERATED ²⁴¹ AMBE SOURCE FOR NEUTRON METROLOGY | 75 |
| <i>Angela Souza Gonçalves, Karla Cristina De Souza Patrão, Walsan Wagner Pereira</i> | |
| PERFORMANCE CHECK BENCH OF COBALT-60 RADIOACTIVE SOURCE FOR STEEL PLANT | 79 |
| <i>Denis Gonçalves, Daniel De Almeida Magalhães Campolina, Marlucio Antônio Da Silva</i> | |
| ASSESSING SHIELDING THICKNESS IN AM-241 NUCLEAR BATTERY | 83 |
| <i>Paula Cristina Guimaraes Antunes, Carla Daruich De Souza, Julian Marco Barbosa Shorto, Antônio Belchior Junior, Fernando Castro Junqueira, Carlos Alberto Zeitune, Eduardo Lobo Lustosa Cabral, Maria Alice Morato Ribeiro</i> | |
| DETERMINATION OF THE TOTAL RETENTION CAPACITY OF ⁹⁹ MO IN ANIONIC EXTRACTING AGENT | 87 |
| <i>Ione Makiko Yamazaki, Denise Simões Moreira, Mauro Da Silva Dias, José Antonio Seneda, Marina Fallone Koskinas</i> | |
| ACCUMULATED DOSE STABILITY PARAMETERS IN P-TYPE AND N-TYPE SILICON DIODES | 91 |
| <i>Carmen Bueno, Kelly Pascoalino, Josemary Gonçalves, Fabio De Camargo, Eija Tuominen</i> | |
| CALIBRATION COEFFICIENTS OF EPITAXIAL DIODES USED IN DIAGNOSTIC RADIOLOGY AND COMPUTED TOMOGRAPHY | 95 |
| <i>Josemary Gonçalves, Patricia Lara Antonio, Linda Viola Ehlin Caldas, Maria Da Penha Potiens, Carmen Cecilia Bueno</i> | |
| STUDY ON THERMAL TREATMENT OPTIONS FOR TLD-100 THERMOLUMINESCENT DOSIMETERS | 99 |
| <i>Andrea Sanchez, Vicente Campos, Gaiânê Sabundjian, Felícia Rocha</i> | |
| TECHNICAL PROTOCOL FOR CALIBRATION OF AMBIENT DOSE EQUIVALENT (RATE) METERS IN ISO NEUTRON REFERENCE FIELDS | 103 |
| <i>Lunia De Lima, Walsan Wagner Pereira, Antônio Carlos Ferreira</i> | |
| COMPUTATIONAL ANALYSIS OF WAX DEPOSITION IN DEEPWATER PIPELINES USING NUCLEAR TECHNIQUES | 107 |
| <i>Nalber Miranda Leite, Carlos Alberto Brayner De Oliveira Lira, Abel Gámez Rodríguez</i> | |
| DOSE RATE ESTIMATION BY EXTRACTING AND ANALYZING COLORS FROM AN IMAGE GENERATED BY A CMOS IMAGE SENSOR | 111 |
| <i>Wallacy Viana, Amir Zacarias Mesquita, Thêssa Cristina Alonso, Daniel Silva Calheiro, Anna Clara Oliveira Alves</i> | |
| IN VIVO MONITORING IN RADIOLOGICAL EMERGENCIES: A PROGRAM TO INTERCOMPARE THE PHYSICAL QUANTITY EFFICIENCY ON NAI(TL) PORTABLE DETECTORS | 115 |
| <i>Alexandre Barbosa Soares, José Ubiratan Delgado, Alfredo Lopes Ferreira Filho</i> | |
| STUDY OF DOSE CALCULATION OF BETA-EMITTING SOURCE FOR PALLIATIVE TREATMENT OF SPINAL CANCER USING MCNP6.2 CODE | 119 |
| <i>Ana Laura Burin, Ana Catarina Koka De Souza Silva, Cristhian Ferreira Talacimon, Ilca Marli Moitinho Amaral Medeiros, Lara El Hajj Teodoro, Paulo Victor Dos Santos Tavares, Priscila Santos Rodrigues, Sabrina Spigaroli Sprignoli, Carla Daruich De Souza, Maria Elisa Chuery Martins Rostelato</i> | |
| ACTIVIMETER CALIBRATION APPLICATION FOR ¹³¹ I | 122 |
| <i>Elaine Wirney Martins, Elaine Wirney Martins, Maria Da Penha Albuquerque Potiens</i> | |

| | |
|---|-----|
| COMMITTED EFFECTIVE DOSE BY INGESTION FOOD GROWN IN PEDRA BRANCA STATE PARK..... | 126 |
| <i>Nadia Rodrigues Dos Santos, Rosa Jimenez Bermudez, Alessandro Mariano Domingues, Izabella Soares De Souza, Carlos Omar Pastrana Orejuela, Ademir Xavier Da Silva, Edmilson Monteiro De Souza, Inayá Corrêa Barbosa Lima</i> | |
| DOSIMETRIC EVALUATION OF MODIFIED VOXEL PHANTOM BASED ON THE ALDERSON RANDO ANTHROPOMORPHIC SIMULATOR | 130 |
| <i>Alice Sant' Anna Albuquerque, Denison De Souza Santos, Luiz Antonio Ribeiro Da Rosa</i> | |
| EFFECTS OF IONIZING RADIATION ON BROMINE DOPED CESIUM IODIDE SCINTILLATOR CRYSTALS | 134 |
| <i>João Paulo Da Silva Alves, Maria Da Conceição Costa Pereira, Tufic Madi Filho, José Roberto Berretta</i> | |
| DOSIMAGEM SCATTERING CORECTION: A WEB APLICATION FOR USE THE TEW CORRECTION IN RAW DICOM IMAGES | 138 |
| <i>Francisco Harlley Dantas Hauradou Xavier, Ademir Xavier Da Silva, Mirta Bárbara Torres Berdeguez</i> | |
| PARAMETERS FOR VALIDATING A SPECTROMETRIC SYSTEM WITH ITINERANT NAI(TL) IN THE ATIVIMETER'S CALIBRATION | 142 |
| <i>Dayana Azeredo Da Conceição, José Ubiratan Delgado, Octavio Luiz Trindade Filho</i> | |
| IMPROVE THE RESPONSE OF EXISTING DOSIMETERS TO THE NEW OPERATIONAL QUANTITY VALIDATED BY THE ALGORITHM..... | 146 |
| <i>Gabriela Tereza Pinheiro Melo, Vinicius Saito Monteiro De Barros, Viviane Khoury Asfora, Helen Jamil Khoury</i> | |
| SECONDARY STANDARDIZATION OF NEUTRON FLUENCE FIELDS AT THE ARGONAUT REACTOR - IEN: ASSESSMENT OF CALIBRATION AND IRRADIATION METROLOGICAL CAPACITY FOR SAMPLES AND INSTRUMENTS..... | 150 |
| <i>Fellipe Souza Da Silva, Francisco Jose De Oliveira Ferreira, Walsan Wagner Pereira</i> | |
| ELETRONIC CIRCUIT SIMULATION FOR NUCLEAR DETECTION AND INSTRUMENTATION..... | 154 |
| <i>Joana Soares, Ary Machado De Azevedo, William Henrique Silva Profeta, Wallace Vallory Nunes, Paulo Cezar Rocha Silveira, Domingos D'Oliveira Cardoso</i> | |
| EVALUATION OF LUMINESCENT RESPONSE OF MAGNESIUM TETRABORATE DOPED WITH RARE EARTHS..... | 157 |
| <i>Alcilene Cristina Da Silva, Raquel Aline Pessoa Oliveira, Charles Nilton Do Prado Oliveira, Vinicius Saito Monteiro De Barros, Helen Jamil Khoury, Viviane Khoury Asfora</i> | |
| CALCULATION OF THE TRANSMISSION FACTOR FOR ELECTROMAGNETIC RADIATION AND NEUTRONS FOR COMPOSITES BASED ON EPOXY RESIN AND SILICA NANOPARTICLES..... | 161 |
| <i>Ary Machado De Azevedo, Thomaz Jacintho Lopes, Marcos Paulo Cavaliere De Medeiros, Fernando Manuel Moreira, Wallace Vallory Nunes, Joana Batista Soares, Paulo Cezar Rocha Silveira, Sérgio Neves Monteiro, Domingos D'Oliveira Cardoso, André Ben-Hur Da Silva Figueiredo</i> | |

| | |
|---|-----|
| CALCULATION OF THE TRANSMISSION FACTOR FOR ELECTROMAGNETIC RADIATION AND NEUTRONS FOR COMPOSITES BASED ON EPOXY RESIN AND GRAPHENE NANOTUBES..... | 165 |
| <i>Thomaz Lopes, Ary Machado Azevedo, Joana Batista Soares, Wallace Vallory Nunes, André Ben-Hur Da Silva Figueiredo, Marcos Paulo Cavaliere De Medeiros, Paulo Cezar Rocha Silveira, Domingos D'Oliveira Cardoso, Sergio Neves Monteiro, Fernando Manuel Araújo Moreira</i> | |
| PERFORMANCE OF THE CDTN PERSONAL DOSIMETRY SYSTEM AS FAR HP(10) AND HP(0.07) DOSE EQUIVALENTS EVALUATION..... | 169 |
| <i>Claudete Roberta Evangelista Silva, Peterson Lima Squair, Teógenes Augusto Da Silva</i> | |
| DEVELOPMENT OF 3D-PRINTED DIFFUSION CAMERA FOR ALPHA-TRACK DETECTORS..... | 173 |
| <i>Laura Cardoso Takahashi, Cláudio Cunha Lopes, Talita De Oliveira Santos, Isabela Nicomedes Silva Ferreira, Júlia Batista Severo, Ricardo Gomes Passos</i> | |
| UTILIZATION OF DRONES FOR MONITORING AND ESTIMATING IONIZING RADIATION SOURCES..... | 177 |
| <i>Jonathan De Almeida Lapa, Felipe Lopes Frigi, Claudio Antonio Federico, Edson Ramos De Andrade, Elcio Hideiti Shiguemori</i> | |
| A DRONE-BASED APPROACH FOR RADIOMETRIC MAPPING OF GAMMA RADIATION..... | 180 |
| <i>Felipe Mamed De Souza, Alessandra Vaz Dos Anjos Santos, Ary Machado De Azevedo, Joana Batista Soares, Jonathan Oliveira Dos Santos, Paulo Cezar Rocha Silveira, Paulo José Iack Silva, Paulo Sérgio Barreto Pinto, William Henrique Silva Profeta, Wallace Vallory Nunes</i> | |
| ANALYZING GAMMA IRRADIATED SPECTROLITE IN RELATION TO THE PHOTO-TRANSFER TL AND OSL EFFECTS..... | 184 |
| <i>Patrícia De Lara Antonio, Linda Viola Ehlin Caldas</i> | |
| PERTURBED ANGULAR CORRELATION TECHNIQUE APPLIED FOR STUDIES OF FORMATION HAFNON STRUCTURES OF HFSIO4 AT DIFFERENT TEMPERATURES..... | 188 |
| <i>Tatiane Da Silva Nascimento Sales, Tatiane Silva Nascimento Sales, Anastasia Burimova, Luciano Fabricio Dias Pereira, Arnaldo A. M. Filho, Bruno S. Correa, Levy Scalise, Wanderson Lobato Ferreira, Katiusse Silva Souza, Iberê S. Ribeiro- Junior</i> | |
| DIFFERENTIATION OF BONE SUBMITTED TO SINGLE DOSE FROM FRACTIONAL OF IONIZING RADIATION BY ATR-FTIR SPECTROSCOPY..... | 191 |
| <i>Gleice Germano, Pedro Arthur Augusto De Castro, Derly Augusto Dias, Marcelo Noronha Veloso, Denise Maria Zzell</i> | |
| COEFICIENTES DE CONVERSÃO EM RADIODIAGNÓSTICO UTILIZANDO MÉTODO DE MONTE CARLO..... | 194 |
| <i>Marco Antonio Frota Lima, Marco Antonio Frota Lima, Clarisse F. Alcantara, Ian A. Kastrup</i> | |
| AN OVERVIEW OF RADIATION THERAPY DOSIMETRY..... | 198 |
| <i>Juliana Pavoni</i> | |
| RADIOPROTECTIVE POTENTIAL OF PLANT SPECIMENS: A REVIEW..... | 201 |
| <i>Raquel De Oliveira, Suy Ferreira Hwang, Fabiana Farias De Lima Guimarães</i> | |
| STUDY FOR THE DEVELOPMENT OF A BIOSENSOR ORIENTED AT THE INTERACTION-RESPONSE OF CHEMICAL WAR AGENTS AND IONIZING RADIATIONS..... | 205 |
| <i>João Nilton Bandeira, Fabiane Modenese Garbim, Joyce Sobreiro Francisco Diz De Almeida, Álvaro José Boareto Mendes, Fernando Manuel Araújo Moreira</i> | |

IMPLEMENTATION OF THE FLUORESCENT IN SITU HYBRIDIZATION TECHNIQUE AT THE NORTHEAST REGIONAL CENTER FOR NUCLEAR SCIENCES 209
Gael Freires De Lima, Amanda Silva De França, Raquel Cordeiro De Oliveira, Ana Maria Mendonça De Albuquerque Melo, Fabiana Farias De Lima

DOSIMETRY FOR FLASH RADIOTHERAPY: A REVIEW OF DOSIMETRIC SYSTEMS 213
Karoline Feitoza Suzart, Maria Da Penha Albuquerque Potiens

ENAN > E02 - APPLICATIONS TO THE ENVIRONMENT

EVALUATION OF RADIONUCLIDES IN SUGAR SAMPLES FROM DIFFERENT REGIONS OF BRAZIL 216
Marco Antonio Frota Lima, Marco Antonio Frota Lima, Clarisse Alcantara, Ian Kastrup, Alphonse Kelecom, Jardel Lemos, Rayline Silva, Lorena Santos, Leandro Barbosa, Carlos Pastrana

PB-210 ACTIVITY CONCENTRATION MEASURED IN RAINFALL IN DIFFERENT SAMPLING HEIGHTS..... 220
José Oliveira De Almeida Neto, Sandra Regina Damatto, Marcelo Francis Maduar, Lúcio Leonardo, Luiz Flávio Lopes Teixeira

BYPRODUCT-BASED ZEOLITE TYPE A AS ABSORBENT MATERIAL FOR DECONTAMINATION OF SIMULATED RADIOACTIVE WASTEWATER 224
Mariana Araujo, Danilo Lopes Costa E Silva, Sonia Regina Homem De Mello Castanho, Denise Alves Fungaro

POTENTIAL APPLICATIONS OF WATER STABLE ISOTOPES IN NUCLEAR FACILITY ENVIRONMENTAL MONITORING PROGRAMS..... 231
Lucilena Monteiro, Thamiris Bernadino Stellato, Ricardo Gomes Passos, Ilza Dalmazio, H. B. Gomes, Ligia Santana De Faria Almeida, Germain Esquivel-Hernández, Sandra Regina Damatto, Marycel Elena Barboza Cotrim

APPLICATION OF WDXRF AND EDXRF SPECTROMETRY FOR MAJOR AND MINOR ELEMENTAL ANALYSIS IN OIL SLUDGE BY FUNDAMENTAL PARAMETER ALGORITHM..... 235
Aline Leone Muguet Pinto, Marcos Antonio Scapin, Marycel Elena Barboza Cotrim, Julio Takehiro Marumo, Sabine Neusatz Guilhen

BABASSU COCONUT ENDOCARP-DERIVED ACTIVATED BIOCHAR FOR EFFICIENT CESIUM ADSORPTION FROM AQUEOUS SOLUTION 239
Gabriela Ferreira Negro Garcia, Leandro Goulart De Araujo, Júlio Takehiro Marumo, Sabine Neusatz Guilhen

NATURAL RADIONUCLIDES IN SURFACE SOILS FROM BIRITIBA-MIRIM RESERVOIR, STATE OF SÃO PAULO, BRAZIL 243
Pedro Gonçalves, Sandra Regina Damatto, Lúcio Leonardo, Marycel Elena Barboza Cotrim, Thiago Costa Silva

GEOLOGICAL STUDY OF SEDIMENTS FROM THE NEGRO AND SOLIMÕES RIVERS 247
Casimiro Munita, Patricia Ramos Carvalho, Rogério B. Ribeiro, Emílio A. A. Soares, Ricieri R. P. Tarabossi

| | |
|---|-----|
| NUCLEAR ENERGY AS PART OF THE CLIMATE SOLUTION AND INSTRUMENT FOR SUSTAINABLE DEVELOPMENT | 251 |
| <i>Jairo Silva Bastos, Inaya Correa Barbosa Lima, Antonio Carlos Marqueea Alvim, Fernando Carvalho Da Silva</i> | |
| HIGH RESOLUTION X-RAY MICROTOMOGRAPHY AS A TOOL FOR OBSERVATION AND CLASSIFICATION OF INDIVIDUAL MICROPLASTICS | 255 |
| <i>Atila De Paiva Teles, Marcus Vinicius Santos Da Silva, Davi Ferreira De Oliveira, Ricardo Tadeu Lopes</i> | |
| BE-7 BEHAVIOR IN IPERÓ (BRAZIL) DUE TO ATMOSPHERIC AND SOLAR ACTIVITY INFLUENCES..... | 259 |
| <i>Renata Mayumi Saito, Cássia Maria Leme Beu, André Luis Lima De Araújo, Beatriz Guimarães Nunes Lambiasi</i> | |
| QUALITY ASSURANCE AND QUALITY CONTROL OF PH MEASUREMENTS FOR URBAN WASTEWATER OF A NUCLEAR AND RADIOACTIVE FACILITY | 263 |
| <i>Tatiane Bernardino De Seixas Carvalho Da Silva, Thamiris Bernadino Stellato, Lucilena Rebelo Monteiro, Debora Almeida Pirani, Samia R. Maracaípe Lima, Stella Ros Blat, Felipe Viana, Marycel E. B. Cotrim</i> | |
| COMPARISON OF ERICA TOOL VERSIONS 1.3 AND 2.0 IN AN ENVIRONMENTAL SCENARIO USING NORM RESIDUE | 267 |
| <i>Marcelo Nisti, Cátia Heloisa Rosignoli Saueia</i> | |
| INORGANIC CHEMICAL CHARACTERIZATION OF THE SOIL FROM THE SPRINGS AT RPPN FAZENDA RENÓPOLIS | 271 |
| <i>Carlos Eduardo Cunha Rodrigues, Sandra Regina Damatto, Lucio Leonardo</i> | |
| POTENTIAL OF IONIZING RADIATION APPLICATION FOR REDUCING ENVIRONMENTAL RISKS RELATED TO SOLIDS RESIDUES | 275 |
| <i>Sueli Borrelly, Maria Veronica Vogt, Jose Pachado, Simone Aquino</i> | |
| THE PRODUCTION OF CLEAN AND LOW-COST HYDROGEN THROUGH NUCLEAR POWER PLANTS..... | 279 |
| <i>Eduardo De Moraes, Prof Dr Electo Eduardo Lora Da Silva, Prof Dr Marcelo Silva Rocha</i> | |
| DETERMINATION OF RADON CONCENTRATION IN THE PREMISES OF THE INSTITUTE OF RADIOPROTECTION AND DOSIMETRY..... | 283 |
| <i>Lucas Lima De Cardoso Rezende, Fernando Carlos Araujo Ribeiro, Paulo Roberto Rocha Ferreira, Ricardo Alberto Giannoni</i> | |
| EVALUATION OF SUGARCANE BAGASSE USE FOR THE SYNTHESIS OF REDUCED GRAPHENE OXIDE BY USING MICROWAVE PROCESS..... | 287 |
| <i>Sumair Araujo, Liliane Landini, Sumair Gouveia De Araujo, Vera Lucia Ribeiro Salvador, Rafael Henrique Lazzari Garcia, Eguiberto Galego, Marilene Morelli Serna, Horácio Linhares</i> | |
| ASSESSMENT OF NATURALLY OCCURRING RADIONUCLIDES IN A PRE-OPERATIONAL STAGE OF A SHRIMP FARM IN SOUTHERN BAHIA, BRAZIL | 291 |
| <i>Wagner Pereira, R. R. Cabral, J. M. Lopes, G. M. Hadlich, A. B. Costa, M. R. Zucchi, J. G. G. Santos, W. S. Pereira</i> | |

| | |
|--|-----|
| DOSE ASSESSMENT DUE TO THE INTAKE OF 226RA AND 228 RA CONTAINED IN VEGETABLES GROWN BOTH ORGANICALLY AND CONVENTIONALLY IN REGIONS WITH HIGH NATURAL RADIOACTIVITY | 295 |
| <i>A. Paiva, W. Pereira, A. Kelecom, J. Lopes, A. Carmo, M. Charles-Pierre, E. Campelo, L. Filho, A. Silva</i> | |
| RADIOLOGICAL RISK DUE TO INGESTION OF WATER FROM AN OLD URANIUM MINE: RELEASES FROM WASTE POND | 298 |
| <i>Wagner Pereira, W. S. Pereira, A. Kelecom, J. M. Lopes, M. Charles-Pierre, E. L. C. Campelo, A. S. Do Carmo, A. X. Silva</i> | |
| USING MCNP TO OBTAIN EFFICIENCY CURVES FOR QUANTIFYING ACTIVITY CONCENTRATION IN ENVIRONMENTAL SAMPLES..... | 302 |
| <i>Wagner Pereira, M. Charles-Pierre, W. S. Pereira, J. M. Lopes, A. S. Do Carmo, E. L. C. Campelo, L. G. Padilha Filho, A. X. Silva</i> | |
| THE RISK ASSESSMENT DUE TO INTAKE OF URANIUM: THE CASE OF A SEMI-ARID REGION OF BRAZIL | 305 |
| <i>Wagner Pereira, W. S. Pereira, A. Kelecom, J. M. Lopes, A. S. Carmo, S. G. Pelegrineli, E. L. C. Campelo, N. R. E. P. Potenciano, A. C. G. Schenberg, A. X. Silva</i> | |
| SYNCHROTRON MICROTOMOGRAPHY TO EXPLORE THE ANATOMY OF INSECTS | 309 |
| <i>Gabriela Souza, Thaina Alvarenga, Tayane Tanure, Samara Oliveira, Katrine Paiva, Marcos Vinicius Colaço, Ademir Xavier Da Silva, Cícero Mello, Ruan Ingliton, Regina Cely Barroso</i> | |
| DETERMINATION OF NATURAL RADIOACTIVITY LEVELS IN DRINKING WATER AND SOIL AT APA PASSAÚNA (CURITIBA, PR)..... | 313 |
| <i>Rodrigo Sanas Zamboni, Camila Sampaio Nogueira, Sergei Anatolyevich Paschuk, Janine Nicolosi Corrêa</i> | |
| EVALUATION OF THE COMBINATION OF LINEAR ALKYLBEZENE SULFONATE (LAS) WITH EMERGING POLLUTANTS: AN APPROACH TO AQUATIC ECOTOXICITY AND ELECTRON BEAM TREATMENT | 317 |
| <i>Vanessa Silva Granadeiro Garcia, Flávio Kioyshi Tominaga, Nathalia Fonseca Boiani, Anselmo Feher, Sueli Ivone Borrely</i> | |
| HUMAN BIOMONITORING IN RESIDENTS OF A NORM AREA USING THE COMET ASSAY, PERNAMBUCO-BRAZIL | 321 |
| <i>Vinicius Henrique Teixeira Moraes, Dewson Rocha Pereira, João Emanuel Firmo Pinto, Osana Diniz Ferreira, Ana Maria Mendonça De Albuquerque Melo</i> | |
| RADIOMETRIC CHARACTERIZATION OF PANDEIROS RIVER BASIN (MINAS GERAIS - BRAZIL) | 325 |
| <i>Lucas Daniel Cunha De Paula, Rubens Martins Moreira, Eduardo Duarte Marques, Claudio Jose Chagas, Carlos Alberto De Carvalho Filho, Fernando Machado De Mello</i> | |
| TRITIUM AS A TRACER TO LANDFILL LEACHATE LIQUID MIGRATION IN GROUNDWATER..... | 329 |
| <i>Rafael Campos De Oliveira, Carlos Alberto De Carvalho Filho, Rubens Martins Moreira, Eliana Nonato Knupp</i> | |
| DETERMINATION OF 210-PB AND 7-BE IN AMAZON RAINFALL - SITE ATTO. | 333 |
| <i>Tamires De Araujo Mora, Paulo Sérgio Cardoso Da Silva, Guilherme Soares Zahn, Frederico Antonio Genezini</i> | |

| | |
|--|-----|
| RADON DOSIMETRY AND WATER CHEMICAL AND RADIOLOGICAL CHARACTERIZATION OF BRAZILIAN SPAS..... | 337 |
| <i>Paulo Sergio Cardoso Silva, Guilherme De Lima Reis, Marcia Pires De Campos, Jefferson Koyaishi Torrecilha, Nicolly Santana De Oliveira, Dagnaldo De Araújo Silva, Jussara Marques Oliveira Marrichi, Barbara Pacci Mazzilli</i> | |
| ONE YEAR OF BE-7 MEASUREMENT IN RAINFALL COLLECTED IN DIFFERENT POINTS IN THE CITY OF SÃO PAULO, BRAZIL..... | 341 |
| <i>Rafael Martins Domingos, Lucio Leonardo, Sandra Regina Damatto, Pedro Miranda Júnior, Vera Lúcia Isiki, Marcelo Bessa Nisti, Marcos Medrado De Alencar, Marcelo Francis Máduar, Luiz Flávio Lopes Teixeira, José Oliveira De Almeida Neto</i> | |
| EFFECT OF PH ON THE 60CO ADSORPTION CAPACITY BY MICRO PARTICLES OF POLYSTYRENE..... | 345 |
| <i>Marisa Iglézias Da Luz, Otavio Gabriel Pontes Vieira, Guilherme Soares Zhan, Niklaus Ursus Wetter, Paulo Sergio Cardoso Da Silva</i> | |
| COMPARATIVE STUDY BETWEEN THE BROMELIAD TILLANDSIA USNEOIDES AND THE TIPUANA TIPU TREE BARKS FOR USE IN ACTIVE BIOMONITORING OF ATMOSPHERIC POLLUTION..... | 349 |
| <i>Gabriel Ishimaru, Mitiko Saiki, Edson Gonçalves Moreira</i> | |
| POLYMERIC MEMBRANES GRAFTED BY IONIZING RADIATION FOR URANIUM ADSORPTION..... | 353 |
| <i>Amanda Caroline Patricio Cardoso, Rafael Henrique Lazzari Garcia, Elita Fontenele Urano De Carvalho, Mohamad Al-Sheikhly, Yasko Kodama</i> | |
| THE INFLUENCE OF RADIATION DOSE IN COMPOSITES OF HDPE-SILICA FILMS ONTO MECHANICAL PROPERTIES..... | 357 |
| <i>Maria Vitoria Silva, Heloisa Augusto Zen, Elisabete Inacio Santiago</i> | |
| DOSE RATE IN CORVINA (MICROPOGONIAS FURNIERI) DUE TO THE INTAKE OF NATURAL RADIONUCLIDES IN ESPÍRITO SANTO, BRAZIL..... | 360 |
| <i>W. Pereira, A. Kelecom, J. Lopes, A. Carmo, R. Viera, E. Campelo, M. Charles-Pierre, A. Silva</i> | |
| DOSE RATE IN CORVINA (MICROPOGONIAS FURNIERI) DUE TO THE INCORPORATION OF NATURAL RADIONUCLIDES IN RIO DE JANEIRO, BRAZIL..... | 363 |
| <i>W. Pereira, A. Kelecom, J. Lopes, A. Carmo, M. Charles-Pierre, R. Furtado, E. Campelo, A. Silva</i> | |
| DOSE ASSESSMENT DUE TO RADIONUCLIDE INTAKE FROM SHRIMP FARMING..... | 366 |
| <i>Wagner Pereira, Santos J. G. G., Lopes J. M., Hadlich G. M., Coata A. B., Zucchi M. R., Cabral R. R., Pereira W. S., Silva A. D.</i> | |
| ALGORITHM METHOD FOR CHEMICAL ANALYSIS ELEMENTAL BY WDXRF TECHNIQUE..... | 370 |
| <i>Marcos Antonio Scapin, Maria Cristina Tessari-Zampieri, Marycel Elenena Barbosa Cotrim</i> | |
| RADIOLOGICAL RISK DUE TO INGESTION OF WATER FROM AN OLD URANIUM MINE: RELEASES FROM WASTE ROCK PILES..... | 374 |
| <i>W. Pereira, A. Kelecom, J. Lopes, R. Furtado, A. Carmo, M. Charlie-Pierre, A. Silva</i> | |

| | |
|--|-----|
| DOSE RATE IN MULLET (MUGIL LIZA) DUE TO THE INTAKE OF NATURAL RADIONUCLIDES IN ESPÍRITO SANTO, BRAZIL..... | 378 |
| <i>W. Pereira, A. Kelecom, J. Lopes, A. Carmo, S. Pelegrineli, M. Charles-Pierre, R. Furtado, E. Campelo, A. Silva</i> | |
| DOSE RATE IN MULLET (MUGIL LIZA) DUE TO THE INTAKE OF NATURAL RADIONUCLIDES IN RIO DE JANEIRO, BRAZIL..... | 381 |
| <i>W. Pereira, A. Kelecom, J. Lopes, A. Carmo, R. Furtado, E. Campelo, A. Silva</i> | |
| DOSE RATE IN PARATI (MUGIL CUREMA) DUE TO THE INTAKE OF NATURAL RADIONUCLIDES IN ESPÍRITO SANTO, BRAZIL..... | 384 |
| <i>W. Pereira, A. Kelecom, J. Lopes, A. Carmo, E. Campelo, R. Furtado, M. Charles-Pierre, A. Silva</i> | |
| IDENTIFICATION AND ASSESSMENT OF THE IMPACT OF PLASTIC WASTE ON SEDIMENTS..... | 387 |
| <i>Sivanilde Da Silvia Santos, Paulo Sergio Cardoso Da Silva, Jefferson Koyaishi Torrecilha, Guilherme Soares Zahn</i> | |
| GROUNDWATER VULNERABILITY AND AQUIFER RECHARGE MODELING BY THE WATER TABLE FLUCTUATION METHOD ON A NUCLEAR AND RADIOACTIVE FACILITY | 391 |
| <i>Thamiris Brandino Stellato, Debora Almeida Pirani, Samia R. M. Lima, Felipe De Sousa Viana, Lucilena Rebelo Monteiro, Sandra Regina Damatto, Marycel Elena Barboza Cotrim</i> | |
| CHARACTERIZATION OF PHOSPHOGYPSUM FROM CARTAGENA AND HUELVA, SPAIN..... | 396 |
| <i>Carla Ricardo, Cristina Trull Hernandis, Belén Juste Vidal, Gumersindo Verdú Martín, Cláudia Pereira, Arno Heeren De Oliveira</i> | |
| EVALUATION OF 40K AND 210PB LEVELS IN SOIL OF THE CAANTIGA BIOME IN THE DESERTIFICATION CORE IN THE SEMI-ARID REGION OF BRAZIL | 400 |
| <i>Bruno Fonseca Da Silva, Gustavo Pires Bertaco, Paulo Sergio Cardoso Da Silva, Mechele Da Silva Santos, Andrezza Karla De Oliveira Silva, Eugênia Cristina Pereira, Deoclecio Jardim Amorim, Plínio Barbosa De Camargo</i> | |
| EVALUATING THE IMPACT OF OCEAN ACIDIFICATION ON SEAFOOD - A GLOBAL APPROACH..... | 404 |
| <i>Francisco Lamego Simões Filho, Fernando Lamego, Nikolas Machado, Debora Rufino, Elisabete Barbarino</i> | |
| DISTRIBUTION OF NATURAL RADIOACTIVE ELEMENTS IN SOILS IN THE STATE OF GOIÁS, ESTIMATION OF EXTERNAL DOSE AND CORRELATION WITH ENVIRONMENTAL CHARACTERISTICS..... | 408 |
| <i>Thiago Arrais Soares, Fernando C. A. Ribeiro, Eduardo P. Viglio, Julio Cezar Suita, Inayá Correa B. Lima</i> | |
| DOSE CALCULATION ON MAINTENANCE TEAM AFTER AIRCRAFT FLIGHT INSIDE RADIOACTIVE PLUME | 412 |
| <i>Felipe Lopes Frigi, Mauricio Tizziani Pazianotto, Claudio Antonio Federico, Edson Ramos De Andrade</i> | |
| PROPOSED METHOD FOR STUDYING RADON EXHALATION | 415 |
| <i>Natália Taveira, Talita De Oliveira Santos, Laura Cardoso Takahashi, Carolina Santos Lamounier, Ricardo Gomes Passos, Arno Heeren</i> | |

| | |
|--|-----|
| DEVELOPMENT OF METHODOLOGIES FOR RA - 226 AND RA - 228 RADIOMETRY TO INVESTIGATE NORM FORMATION PROCESSES IN UNCONVENTIONAL GAS EXPLORATION | 419 |
| <i>Fernanda Cristina Fonseca Camargo, Joyce Castro De Menezes Duarte, Rubens Martins Moreira, Amenônia Maria Ferreira Pinto, Thiago César Oliveira</i> | |

| | |
|--|-----|
| PB AND CD ASSESSMENT IN THREE CATFISH SPECIES FROM AN ESTUARINE ECOSYSTEM IN SÃO PAULO STATE, BRAZIL | 423 |
| <i>Jorge Eduardo De Souza Sarkis, Larrisa Y. Miranda, Marcos A. Hortellani, Juliana S. Azevedo</i> | |

| | |
|--|-----|
| CHEMICAL CHARACTERIZATION OF OYSTER SHELLS OF THE SPECIES CRASSOSTREA MANGLE AND CRASSOSTREA GIGAS..... | 427 |
| <i>Caroline Albuquerque, Paulo S. C. Da Silva, Jefferson K. Torrecilha, Horacio M. S. M. Linhares, Claudio M. R. De Melo</i> | |

| | |
|---|-----|
| EXPLORING RADIONUCLIDE BEHAVIOR: A STUDY IN THE 'KARPOV' INSTITUTE VICINITY | 431 |
| <i>Levy Scalise, Galina Lavrentyeva</i> | |

ENAN > E03 - APPLICATIONS IN HEALTH AND INDUSTRY

| | |
|--|-----|
| EVALUATION OF BIOINDICATOR IN AMPOULES BY MEMBRANE FILTRATION..... | 434 |
| <i>Carlos Farias Felgueiras</i> | |

| | |
|---|-----|
| OPTIMIZATION OF PSMA-IT RADIOLABELING WITH 177LU | 438 |
| <i>Luiza Mascarenhas Balieiro, Maria Das Dores Domingos, Luana Pereira Da Silva, Elaine Bortoleti De Araujo</i> | |

| | |
|--|-----|
| RADIOCHEMICAL STABILITY STUDY OF THERAPEUTIC DOSES OF LU-177-PSMA-I&T. | 442 |
| <i>Luiza Mascarenhas Balieiro, Maria Renata Brandão Freire, Joel Mendes Dos Santos, Elaine Bortoleti De Araujo</i> | |

| | |
|---|-----|
| TIN QUANTIFICATION IN LYOPHILIZED REAGENTS BY DITHIOL SPECTROPHOTOMETRIC METHOD | 446 |
| <i>Margareth Mie Nakamura Matsuda, Joel Mendes Dos Santos</i> | |

| | |
|---|-----|
| ANALYSIS OF HYDROTHERMAL QUARTZ FROM STATES RIO GRANDE DO SUL, BAHIA AND MINAS GERAIS INDUCED BY GAMMA RADIATION..... | 450 |
| <i>Cyro Teiti Enokihara, Rainer Alloys Schultz Guttler, Paulo Roberto Rela</i> | |

| | |
|---|-----|
| EVALUATION OF HPLC CHROMATOGRAPHIC ANALYTICAL METHOD TO DETERMINE RADIOCHEMICAL PURITY OF [177LU]-PSMA I&T..... | 454 |
| <i>Joel Santos, Margareth Mie Nakamura Matsuda, Elaine Bortoleti De Araujo</i> | |

| | |
|---|-----|
| PRELIMINARY STUDY OF STERILIZING FILTRATION VALIDATION: MICROSCOPY OF DOT-IPEN-177 FILTRATION MEMBRANE..... | 457 |
| <i>Vinícius Lima Torres De Oliveira, Luan Junior Dos Santos, Laura Cavalcante Cidrão, Luis Alberto Pereira Dias, Carlos Farias Felgueiras, Margareth Mie Nakamura Matsuda</i> | |

| | |
|---|-----|
| MONTE CARLO METHOD FOR SIMULATING A TECHNIQUE FOR MEASURING THE PROTON BEAM ENERGY FROM A COMMERCIAL CYCLOTRON..... | 461 |
| <i>Henrique Barcellos, Luiza Mascarenhas Balieiro, Isabel Ponce De Miranda, Isabela Castro De Moraes, Tanus Vaz Szabo</i> | |

| | |
|--|-----|
| DETERMINATION OF THE ACTIVITY OF IODINE-125 BY THE SUM PEAK METHOD FOR APPLICATION IN BRACHYTHERAPY | 467 |
| <i>Ilca Marli Moitinho Amaral Medeiros, Ana Catarina Koka De Souza Silva, Ana Laura Burin, Cristhian Ferreira Talacimon, João Augusto Moura, Lara El Hajj Teodoro, Priscila Santos Rodrigues, Sabrina Spigaroli Sgrignoli, Maria Elisa Chuery Martins Rostelato, Carlos Alberto Zeituni</i> | |
| MONTE CARLO METHOD APPLIED TO NANOBRACHYTHERAPY SIMULATIONS | 471 |
| <i>Ana Catarina Koka De Souza Silva, Ilca Marli Moitinho Amaral Medeiros, Ana Laura Burin, Cristhian Ferreira Talacimon, Giovanna Martins Rosa, Lara El Hajj Teodoro, Priscila Santos Rodrigues, Sabrina Spigaroli Sgrignoli, Maria Elisa Chuery Martins Rostelato, Carlos Alberto Zeituni</i> | |
| DETERMINATION OF THE LINEAR ATTENUATION COEFFICIENT FOR A HETEROGENEOUS MATERIAL..... | 475 |
| <i>Vinicius Souza Pinheiro Silva, Luís Eduardo Barreira Brandão, Eduardo Archanjo Cavalcante, Raphael Francisco Gomes Dos Santos</i> | |
| IN VIVO DISTRIBUTION DYNAMICS OF GOLD NANOPARTICLES: A QUANTITATIVE ANALYSIS..... | 479 |
| <i>Angélica Bueno Barbezán, Wilmer Alexandre Arcos Rosero, Luis Fernando De Almeida, Maria Eduarda Zaganin Rigo, Fábio Fernando Alves Da Silva, Maria Elisa Chuery Martins Rostelato</i> | |
| STUDY OF THE RADIOMODIFYING EFFECT OF FOLIC ACID | 482 |
| <i>Clovis Santos</i> | |
| X-RAY COMPUTED MICROTOMOGRAPHY FOR THE INSPECTION OF FLEXIBLE RISERS | 486 |
| <i>Adriana José Da Penha Moreira, Olga Maria Oliveira De Araújo, Alessandra Silveira Machado, Ricardo Tadeu Lopes, Davi Ferreira De Oliveira</i> | |
| PROCEDURES FOR PREPARING A RADIOLOGICAL PROTECTION PLAN FOR INSPECTION IN OFF SHORE INSTALLATIONS USING THE RADIOTRACER TECHNIQUE | 490 |
| <i>Raphaelfrancisco Gomes Dos Santos, Luis E. B. Brandão, Valeska Peres De Araújo, Eduardo A. Cavalcanti, Claudia Cristina Braga, Peter P. Yoon, Vinicius S. P. Silva</i> | |
| COMPARISON BETWEEN THE AVERAGE GLANDULAR DOSE (AGD) CALCULATED USING THE VOLPARA SOFTWARE AND DICOM HEADER. | 494 |
| <i>Camila Engler, Laila Fernanda Moreira De Almeida, Elaine Rodrigues Leite, Fernando Leyton, Maria Do Socorro Nogueira</i> | |
| MANUFACTURING OF PHYSICAL PHANTOM AND EVALUATION OF A SOFTWARE FOR REMOTE QUALITY CONTROL IN MAMMOGRAPHY USING A RETROFIT DR SYSTEM | 498 |
| <i>Laila Fernanda Moreira De Almeida, Camila Engler, Peterson Lima Squair, Maria Do Socorro Nogueira</i> | |
| ANALYSIS OF THE IMPACT OF DIGITAL IMAGE FORMAT ON THE EVALUATION OF A MAMMOGRAPHY PHANTOM..... | 502 |
| <i>Laila Fernanda Moreira De Almeida, Roger Ferreira Da Silva, Camila Engler, Elaine Rodrigues Leite, Peterson Lima Squair, Maria Do Socorro Nogueira, Frederico Gadelha Guimarães</i> | |
| CEREBRAL ANGIOGRAPHY: ARE THE PATIENT'S DOSES HIGH? | 506 |
| <i>Raquel Nascimento Assimos, Lucía Viviana Canevaro</i> | |

| | |
|--|-----|
| ESTIMATION OF DOSE DEPOSITION BY 198-AUNPS IN THE PROSTATE WITH MCNP IN SIMPLIFIED GEOMETRY | 510 |
| <i>Sabrina Spigaroli Sgrignoli, Lucas Verdi Angelocci, Henrique Santos De Chico, Carla Daruich De Souza, Ana Laura Burin, Priscila Santos Rodrigues, Lara El Hajj Teodoro, Ilca Marli Moitinho Amaral Medeiros, Carlos Alberto Zeituni, Maria Elisa Chuery Martins Rostelato</i> | |
| SEPARATION OF SC AND TI USING CATION EXCHANGE RESIN | 514 |
| <i>Lilian Ninoska Muriel Braguin, Gustavo Seiji Pó, Iberê Ribeiro De Souza Junior, Paulo Sergio Cardoso Da Silva</i> | |
| ANALYSIS OF ISO 5832-1 STAINLESS STEEL ALLOYS BY NUCLEAR TECHNIQUES | 518 |
| <i>Lilian Ninoska Muriel Braguin, Caio Almeida Justino Da Silva, Marcos Scapin, Isolda Costa, Mitiko Saiki</i> | |
| OPTIMIZATION OF CONCENTRATION AND ACTIVITY IN THE PRODUCTION OF RADIOACTIVE GOLD NANOPARTICLES FOR CANCER TREATMENT | 522 |
| <i>Wilmmer Alexander Arcos Rosero, Angelica Bueno Barbezan, Luis Fernando De Almeida, Maria Elisa Chuery Martins Rostelato</i> | |
| DEVELOPMENT AND ANALYSES OF TRANSPARENT SILICATE GLASSY SYSTEM WITH BAO INCLUSION TO APPLICATION RADIATION SHIELD | 526 |
| <i>Ronaldo Celso Viscovini, Robson Ferrari Muniz</i> | |
| PERFORMANCE OF THE SEM (SCANNING ELECTRON MICROSCOPE), RAMAN SPECTROSCOPY, AND INDUSTRIAL COMPUTED TOMOGRAPHY USED FOR CHARACTERIZATION OF THE VESICULAR VOLCANIC ROCK AS APPLIED IN CARBON CAPTURE AND STORAGE (CCS) | 529 |
| <i>Rodrigo Santos, Rodrigo Silva Dos Santos, Alexandre França Velo, Francisco De Assis Cavallaro, Rafael Henrique Lazzari Garcia, Carlos Henrique De Mesquita, Wilson Aparecido Parejo Calvo</i> | |
| DEVELOPMENT OF A SOFTWARE FOR CROPPING AND ALIGNMENT OF CBR MAMMOGRAPHY PHANTOM IMAGES | 533 |
| <i>Roger Ferreira Da Silva, Laila Fernanda Moreira De Almeida, Maria Do Socorro Nogueira, Frederico Gadelha Guimarães</i> | |
| SOME PHYSICAL CHEMICAL ASPECTS OF NON-WOVEN FABRIC POLYPROPYLENE EXPOSED TO ELECTRON-BEAMS | 536 |
| <i>Maiara Salla Ferreira, Eduardo Moura, Samir Somessari, Elisabeth Somessari, Aurea Beatriz Cerqueira Geraldo</i> | |
| POSSIBLE NEW PHOSPHORUS-32 SOURCE FOR PARASPINAL BRACHYTHERAPY | 541 |
| <i>Lara El Hajj Teodoro, Ana Laura Burin, Ana Catarina Koka De Souza Silva, Cristhian Ferreira Talacimon, Maria Eduarda Zaganin Rigo, Ilca Marli Moitinho Amaral Medeiros, Priscila Santos Rodrigues, Paulo Victor Dos Santos Tavares, Sabrina Spigaroli Sgrignoli, Maria Elisa Chuery Martins Rostelato</i> | |
| DEVELOPMENT OF SPHEROIDS IN CO-CULTURE OF PROSTATE TUMOR WITH HUMAN FIBROBLASTS, USING THE HANGIN-DROP TECHNIQUE WITH PLATE INVERSION FOR ANALYSIS OF GAMMA IRRADIATION IN (COBALT 60) | 544 |
| <i>Thais Monteiro, Alex Alves Rodrigues, Giovana Dias Da Silva, Esther Carolina Dos Santos, Suleyna Ribeiro Prudente, Patricia Lima Falcão, Mayelle Maria Paz Lima, Daniel Perez Vieira</i> | |

| | |
|---|-----|
| SOLUBLE POLYMER- CURCUMIN ENCAPSULATION TO PROTECT AGAINST GAMMA IRRADIATION AND INCREASE THE WATER SOLUBILITY | 547 |
| <i>Lucas Dallmann Almeida, Duclerc Fernandes Parra</i> | |
| ANALYSIS OF THE PARTICIPATION OF THE NUCLEAR TECHNOLOGY DEVELOPMENT CENTER (CDTN) IN PROFICIENCY TESTS TO MEASURE THE ACTIVITY OF RADIOPHARMACEUTICALS ORGANIZED BY THE INSTITUTE OF RADIOPROTECTION AND DOSIMETRY (IRD)..... | 550 |
| <i>Enzo Cortez, Leonardo Tafas Constantino Nascimento, Andrea Vidal Ferreira, Karla Cristina De Souza Patrão, Johnny De Almeida Rangel</i> | |
| LU AND YB SEPARATION: AN ION EXCHANGE CHROMATOGRAPHY PROCESS OPTIMIZED BY DESIGN OF EXPERIMENTS | 554 |
| <i>Renata Mendes Nory, Marcos Oliveira Damasceno, Vitória Tapetti, Edson Gonçalves Moreira</i> | |
| ANALYSIS OF THE COXAL LIQUID OF O. BRASILIENSIS TICK SPECIES BY ANALYTIC TECHNIQUES..... | 558 |
| <i>Cibele Bugno Zamboni, Dalton Nogueira Da Silva Giovanni, Simone Michaela Simons</i> | |
| DEVELOPMENT OF THE NANOPARTICLE SYNTHESIS PROCESS..... | 561 |
| <i>José Adilson Dos Santos Guerra, Hugo Araujo Santos, Arthur Wilson Carbonari</i> | |
| RADIOLABELING OF PORCINE, MURINE GROWTH HORMONE AND A POTENTIAL ANTAGONIST G118R-MGH FOR BIODISTRIBUTION STUDY | 565 |
| <i>Amanda Palermo Nunes, Filipe Menezes, Larissa Andrade Almeida, Stephanie Angelo Pomin, Patricia Lima Falcão, Carlos Roberto Jorge Soares</i> | |
| THE ROLE OF PROLACTIN (PRL) IN ACTIVATING THE SIGNALING PATHWAYS OF THE JAK STAT COMPLEX AS A POTENTIAL CANDIDATE IN RADIORESISTANT MDAMB-231 CELLS IN 3D CULTURES..... | 568 |
| <i>Patricia Lima Falcao, Daniel Perez Vieira, Giovana Dias Da Silva, Amanda Palermo Nunes, Filipe Menezes, Suleyna Ribeiro Prudente, Thais Monteiro Da Silva, Ester Carolina Dos Santos, Mayelle Maria Paz, Carlos Roberto Jorge Soares</i> | |
| THE EDXRF ANALYSIS TO MONITOR IRON DEFICIENCY ANEMIA..... | 572 |
| <i>Maria Paula De Oliveira Goes, Cibele Bugno Zamboni, Maria Gabriela Miquelino Benedito, Maria Regina Andrade De Azevedo</i> | |
| RADIOMODIFYING EVALUATION OF FOLIC ACID IN DANIO RERIO EMBRYOS EXPOSED TO GAMMA RADIATION | 576 |
| <i>Rodrigo Alavarse, José Roberto Rogero, Sizue Ota Rogero, Murilo Alison Vigilato Rodrigues, Daniel Perez Vieira</i> | |
| ASSESSMENT OF TRACE ELEMENTS CONCENTRATION IN COSMETIC FOUNDATION USING X-RAY FLUORESCENCE TECHNIQUE | 580 |
| <i>Camila Sampaio Nogueira, Rodrigo Sanas Zamboni, Sergei Anatolyevich Paschuk, Janine Nicolosi Corrêa</i> | |
| SYNTHESIS AND CHARACTERIZATION OF HOLMIUM PHOSPHATE MICROSPHERES APPLIED TO RADIOEMBOLIZATION STUDIES IN THE TREATMENT OF HEPATOCELLULAR CARCINOMA | 584 |
| <i>Ana Paula Curcio, Luis Antonio Genova, Frederico Antônio Genezini, Giovana Dias Da Silva, Noé Gabriel Pinheiro Machado</i> | |

| | |
|---|-----|
| CHARACTERIZATION OF IRON OXIDE NANOPARTICLES FOR PRODUCTION OF BREAST ADENOCARCINOMA SPHEROIDS | 587 |
| <i>Mayelle Maria Paz Lima, Giovana Dias Da Silva, Patricia Lima Falcão, Thais Monteiro Da Silva, Rene Ramos De Oliveira, Daniel Perez Vieira</i> | |
| INVESTIGATION OF THE SYNERGETIC RADIOCHEMOTHERAPEUTIC POTENTIAL OF THE RADIOLABELED PLATINUM COMPLEXES CISPLATIN AND CARBOPLATIN | 591 |
| <i>Alexandre Soares Leal, Alexandre Soares Leal, Juliana Batista Silva, Brígida G. De A. Schirmer</i> | |
| THE TRIGA RESEARCH REACTOR OF CDTN: HISTORIC OF THE RECENT 20 YEARS OF UTILIZATION AND PERSPECTIVES..... | 595 |
| <i>Alexandre Soares Leal</i> | |
| RADIATION INDUCED GRAFT POLYMERIZATION (RIG) OF B2MP ONTO NYLON FABRIC FOR URANIUM ADSORPTION | 599 |
| <i>Yasko Kodama, Amanda Caroline Patricio Cardoso, Rafael Henrique Lazzari Garcia, Gustavo Belino, Elita Fontenele Urano De Carvalho, Mohamad Al Scheikhly</i> | |
| DETERMINATION OF BLOOD IRON BY EDXRF IN THE FEMALE POPULATION OVER 60 YEARS OF AGE..... | 603 |
| <i>Maria Gabriela Miquelino Benedito, Cibele Zamboni, Dalton Giovani</i> | |
| GAMMA-RAY AND ELECTRON BEAM BIOMASS PRETREATMENT: A REVIEW | 606 |
| <i>Leonardo Yago Zwetsch Varella, Amir Zacarias Mesquita, Daniel Bastos De Rezende, Érika Cristina Cren, Vitor Fernandes De Almeida, Walewska Gouveia Silva, Thessa Cristina Alonso</i> | |
| THE STABILITY IN DIFFERENT SOLVENTS OF RGO/MAGNETITE OBTAINED VIA IONIZING RADIATION | 610 |
| <i>Miguel Duarte, Solange Kazumi Sakata, Raynara Maria Silva Jacovone, Mayelle Maria Paz Lima, Camila Lucas Da Silva, Octávio Augusto Bernava Brandão</i> | |
| PRODUCTION AND CHARACTERIZATION OF RADIOACTIVE ANTIFUNGAL GALLIUM COMPLEX THIOSEMICARBAZONE DERIVED FROM 2-PYRIDINEFORMAMIDE | 613 |
| <i>Thaíssa De Oliveira Bastos, Raquel Gouvea Dos Santo, Heloisa Beraldo</i> | |
| STUDY OF THE GAMMA IRRADIATION TECHNIQUE IN THE CONSERVATION OF LITERARY WORKS | 617 |
| <i>Margarete Cristina Guimarães, Amir Zacarias Mesquita, Wallace Viana, Thessa Cristina Alonso</i> | |

VOLUME 2

| | |
|---|-----|
| EFFECTS OF GAMMA RADIATION ON BIOPOLYMER PROCESSED BY 3D PRINTING..... | 621 |
| <i>Karina De Oliveira Gonçalves, José Neres De Almeida Junior, Djalma Batista Dias, Orlando Ricardo Junior, Solange Kazumi Sakata</i> | |
| DETERMINATION OF IRON IN WHEAT AND CORN FLOUR USING X-RAY FLUORESCENCE TECHNIQUE..... | 625 |
| <i>Dalton Giovani, Cibele Bugno Zamboni, Simone Maria De Lima Silva, Iris Martins Nogueira, Tamires Martins Nogueira, Elaine Cristina Da Rocha Oliveira, Thielle De Oliveira Chollet, Elisa Andrade Costa</i> | |
| EVALUATION OF THE DEGRADATION PROFILE AND STABILITY OF THE MAG3LYOPHILIZED REAGENT | 629 |
| <i>Renan De Azevedo Silva, Margareth Mie Nakamura Matsuda</i> | |

| | |
|--|-----|
| THE BRAZILIAN PANORAMA FOR THE CALIBRATION OF 90Y MICROSPHERES | 633 |
| <i>Thamyra Cybelle Vieira Dos Santos, Dayana Azeredo Conceição, José Ubiratan Delgado</i> | |
| RADIATION IMPACTS ON RAMAN SPECTRA OF PBAT/PLA (ECOVIO) BAGS IRRADIATED BY ELECTRON BEAM | 637 |
| <i>Yasko Kodama, Catharina Joventino Costa, Thamiris Marcondes Da Silva</i> | |
| APPLICATION OF THE CONVOLUTIONAL NEURAL NETWORK (CNN) IN IMAGE INSPECTION OF PARTS USED IN NUCLEAR AND RADIOACTIVE INSTALLATIONS..... | 641 |
| <i>Kiyoko Marina Tukozaiki, Fernando Pagnin Schmid, Samir Luiz Somensari, Frederico Antonio Genezini, Wilson Aparecido Parejo Calvo</i> | |
| POTENTIAL OF ARTIFICIAL NEURAL NETWORKS IN PREDICTING LIQUID SAMPLES DENSITY USING TRANSMISSION AND SCATTERING GAMMA RADIATION | 645 |
| <i>Roos Sophia De Freitas Dam, César Marques Salgado, William Luna Salgado, Roberto Schirru</i> | |
| ANALYSIS OF THE BEHAVIOR OF SMD CONNECTORS INJECTED WITH POLYETHYLENE AND IRRADIATED AFTER LEAD-FREE SOLDERING..... | 649 |
| <i>Tania Maria Silva Zerbato, Prof. Dr. Leonardo Gondin De Andrade E Silva</i> | |
| CHARACTERIZATION OF THE ANISOTROPY FUNCTION OF A NEW 125I BRACHYTHERAPY SOURCE USING THERMOLUMINESCENT DOSIMETRY | 653 |
| <i>Thuany Corrêa Nogueira, Lucas Verdi Angelocci, Hamona Novaes Dos Santos, Cristhian Ferreira Talacimon, Lara El Hajj Teodoro, Maria Eduarda Zaganin Rigo, Priscila Santos Rodrigues, Carlos Alberto Zeituni, Ana Laura Burin, Maria Elisa Chuery Martins Rostelato</i> | |
| TYPICAL VALUE OF THE AVERAGE GLANDULAR DOSE IN FULL-FIELD DIGITAL MAMMOGRAPHY AT THE PUBLIC HOSPITAL IN BRAZIL..... | 657 |
| <i>Frederico Ladeia Alvarenga, Camila Engler, Peterson Lima Squair, Maria Do Socorro Nogueira Tavares</i> | |
| LONG-TERM STABILITY STUDY FOR GERADOR-IPEN-TEC BY IPEN-CNEN/SP..... | 661 |
| <i>Patricia De Andrade Martins, Marcelo Percilio De Souza Ramos, Luiz Cabral Nascimento, Laercio Silva, José Luiz Da Silva, Joel Mendes Dos Santos, Natanael Gomes Silva, Vivian Mendonça, Flavia Zanella, Margarete Mie Nakamura Matsuda</i> | |
| SYNTHESIS AND CHARACTERIZATION OF AU-198 NANOPARTICLES FOR RADIOTHERAPY. | 665 |
| <i>Maria Eduarda Rigo, Angelica Bueno Barbezan, Cristhian Talacimon, Lara El Hajj Teodoro, Priscila Santos Rodrigues, Wilmer Alexander Arcos Rosero, Thuany Correa Nogueira, Maria Elisa Chuery Martins Rostelato</i> | |
| REVOLUTIONIZING NUCLEAR MEDICINE: ASSESSING THE PERFORMANCE OF BIOPOLYMER-BASED MACROMOLECULES, MICROPARTICLES, AND NANOPARTICLES LOADED WITH IODINE-131 | 668 |
| <i>Karine Rocha Ramos Da Silva, Fellipe Souza Da Silva, Rogério Chaffin Nunes, Antônio Pedro Junior, José Carlos Costa Da Silva Pinto, Luciana Carvalheira</i> | |
| COMPUTED TOMOGRAPHY: CURRENT BRAZILIAN SCENARIO..... | 672 |
| <i>Arthur Bernardo Haiidamus, Simone Kodlulovich Renha</i> | |

| | |
|--|-----|
| INFLUENCE OF DOSE RATE ON RADIOTHERAPY TREATMENT OF THE U87MG CELL LINE THROUGH CELL VIABILITY | 676 |
| <i>Arthur Da Rocha, Ruy Da Silva Rayol Neto, Déborah Assis De Almeida Carneiro, Delano Valdivino Santos Batista, Luiz Antonio Ribeiro Da Rosa, Mariana Paranhos Stelling, Simone Coutinho Cardoso</i> | |
| CHARACTERIZATION AND ANTIBACTERIAL ACTIVITY OF A NICKEL NANOCOMPOSITE BASED ON GRAPHENE | 680 |
| <i>Miguel Duarte, Karina De Oliveira Gonçalves, Solange Kazumi Sakata</i> | |
| SUSTAINABLE SYNTHESIS OF COBALT NANOPARTICLES FOR SUPERCAPACITORS APPLICATION | 684 |
| <i>Solange Sakata, Miguel Duarte, Choo, T. Foo, Karina Oliveira, Daniel V. Da Silva, Rubens N Faria Jr</i> | |
| COMPARISON BETWEEN METHODS FOR DETECTING BACTERIAL CONCENTRATION FOR THE DETERMINATION OF BACTERIAL RADIORESISTANCE VALUE..... | 687 |
| <i>Fernanda Barna, Giovana Dias, Daniel Perez Vieira, Monica Beatriz Mathor</i> | |
| SINGLE NANOPARTICLE ICP-MS FOR CHARACTERIZATION OF GOLD NANOPARTICLES. A POTENTIAL TOOL FOR BIOASSAY | 691 |
| <i>Adriana Napoleão Geraldes, Marcos Antonio Hortellani, Jorge Eduardo De Souza Sarkis</i> | |
| A STUDY COMPARATIVE OF DOSE PARAMETERS IN THE CHEST SCANS IN COMPUTERIZED TOMOGRAPHY | 695 |
| <i>Warley Felix, Arno Heeren De Oliveira, Marcos Eugênio Silva Abrantes, Carla Pereira Ricardo</i> | |
| EFFICACY OF [223RA]RACL2 IN NANOMICELLAR FORM: TARGETING RENAL PATHWAYS, OSTEOSARCOMA THERAPY IN PDX MODELS, AND PHARMACOKINETIC-BIOCHEMICAL ANALYSIS | 700 |
| <i>Martha Sahylí Ortega Pijeira, Natália Cristina Gomes-Da-Silva, Eduardo Ricci-Junior, Luciana Magalhães Rebelo Alencar, Derya Ilem-Ozdemir, Amanda Dos Santos Cavalcanti, Daniel Escorsim Machado, Jamila Alessandra Perini, Ralph Santos-Oliveira</i> | |

ENAN > E04 - APPLICATIONS IN AGRICULTURE AND FOOD

| | |
|--|-----|
| EVALUATIONS OF THE POSSIBLE MUTAGENIC AND GENOTOXIC EFFECTS OF 2-ACBS: BY-PRODUCTS GENERATED FROM IRRADIATED FOODS | 703 |
| <i>Angélica Bueno Barbezán, Ana Carolina De Araújo Bispo, Bruno Melo Mendes, Daniel Perez Vieira, Luma Ramirez Carvalho, Glaucia Maria Machado-Santelli, Anna Lucia Casañas Haasis Villavicencio</i> | |
| ELEMENT CONCENTRATIONS IN NIOBIUM TAILING CARBONATE, SOIL AND LETTUCE BY INSTRUMENTAL NEUTRON ACTIVATION ANALYSIS AND X-RAY DIFFRACTION..... | 707 |
| <i>Rafaella Menezes Ayllon, Jefferson Koyaishi Torrecilha, Horácio Linhares, Thamiris Mohamad El Hajj, Marcos Roberto Furlan, Paulo Sergio Cardoso Silva</i> | |
| FOOD IRRADIATION: A SOLUTION FOR THE CONSERVATION AND SAFETY OF PERISHABLE FOODS IN NAVAL ENVIRONMENTS BY THE BRAZILIAN NAVY | 712 |
| <i>Roberto Gazola Ortiz, Pedro Alexandre Pinto Celestino, Denise Sahyun Levy</i> | |

| | |
|--|-----|
| FOOD IRRADIATION: NOT ALL FOODS CAN BE PROCESSED BY IRRADIATION IN BRAZIL..... | 716 |
| <i>Valter Arthur, Valter Arthur, Anna Lúcia Villavicencio</i> | |
| AWARENESS OF IRRADIATED FOOD CONSUMPTION BETWEEN BRAZIL AND ARGENTINA..... | 720 |
| <i>Anna Lucia Casañas Haasis Villavicencio, Tiago Russin</i> | |
| EFFECTS OF GAMMA RADIATION ON PUPUE OF PLUTELLA XYLOSTELLA TO PHYTOSANITARY TREATMENT..... | 727 |
| <i>Marcio Araujo, Amanda A. De Oliveira, Rio Claro, Anna L. C. H. Villavicencio, Valter Arthur</i> | |
| CAN GAMMA IRRADIATION AFFECT THE REPRODUCTIVE SYSTEM OF INSECTS? EXPLORING DIABROTICA SPECIOSA | 729 |
| <i>Marcio Araujo, Amanda A. De Oliveira, Rio Claro, Valter Arthur, Patrick J. Spencer</i> | |
| RADIATION INFLUENCE ON ANTIOXIDANT CAPACITY, BIOACTIVE COMPOUNDS AND EXTRACTABILITY OF COFFEE PROCESSING RESIDUES | 731 |
| <i>João Pedro Alves De Azevedo Barros, Ana Sofia Martelli Chaib Saliba, Severino Matias De Alencar, Anna Lucia Casañas Haasis Villavicencio</i> | |
| EFFECT OF IRRADIATION ON RESIDUES FROM AVOCADO OIL PROCESSING | 735 |
| <i>João Pedro Alves De Azevedo Barros, Luz Merida Rondan-Flores, Bianca Guimarães Negrão, Daili De Andrade Dos Santos Barreira, Viviane De Fátima Benedetti, Anna Lucia Casañas Haasis Villavicencio</i> | |
| PHYSICAL PROPERTIES OF IRRADIATED RED PITAYA (HYLOCEREUS COSTARICENSIS) DURING STORAGE | 739 |
| <i>Luz Merida Rondan-Flores, Bianca Guimarães Negrão, João Pedro Alves De Azevedo Barros, Daili De Andrade Dos Santos Barreira, Anna Lucia Casañas Haasis Villavicencio</i> | |
| INVESTIGATION OF INORGANIC ELEMENTS IN SOIL IN THE MUNICIPALITY OF BARRA DO CORDA USING EDXRF TECHNIQUE. | 743 |
| <i>Dalton Giovanni, Cibele Bugno Zamboni, Brigitte Roxana Soreanu Pecequilo, Selene Elifio Esposito, Daniel Carvalho Pimenta, Simone Michaela Simons</i> | |
| EFFECT OF IONIZING RADIATION ON STARCH FILMS INCORPORATED WITH HIBISCUS OR TURMERIC EXTRACTS | 747 |
| <i>Nelida Lucia Del Mastro, Bruna Saporito Teixeira</i> | |
| APPLYING IRRADIATION TECHNOLOGY IN SEEDS TO IMPROVE HARVEST PERFORMANCE: CHALLENGES AND POTENTIAL RESPONSES | 751 |
| <i>Daili De Andrade Dos Santos Barreira, Bianca Guimaraes Negrao, Luz Mérida Rondán-Flores, Anna Lucia Casanas Haasis Villavicencio</i> | |
| DISSEMINATION OF INFORMATION ON NUCLEAR SCIENCES AND PUBLIC ACCEPTANCE OF IRRADIATED FOODS IN BASIC EDUCATION..... | 755 |
| <i>Viviane De Fátima Benedetti, João Pedro Alves De Azevedo Barros, Denise Sahyun Levy, Anna Lucia Casanas Haasis Villavicencio</i> | |
| DETERMINATION OF ACTIVITY CONCENTRATIONS DUE TO RA-226, TH-232 AND K-40 IN SUGAR SAMPLES FOR DIFFERENT REGIONS IN BRAZIL: A STUDY OF EFFECTIVE DOSE AND CANCER RISK..... | 759 |
| <i>Marco Antonio Frota Lima, Clarisse F. Alcantara, Ian A. Kastrup, Alphonse Kelecom, Rayline L. Silva, Lorena V. S. Santos, Leandro S. Barbosa, Carlos O Pastrana, Jardel Lemos, Marco A. Frota</i> | |

| | |
|---|-----|
| THERMOGRAVIMETRIC ANALYSIS OF IRRADIATED SAPODILLA (MANILKARA ZAPOTA) PEEL AND SEED FLOUR..... | 764 |
| <i>Bianca Guimarães Negrao, Luz Merida Rondan-Flores, Daili De Andrade Dos Santos Barreira, João Pedro Alves De Azevedo Barros, Anna Lucia Casañas Haasis Villavicencio</i> | |

| | |
|---|-----|
| ARSENIC CONTENT IN TRAHIRA (HOPLIAS MALABARICUS) FROM SÃO PAULO, BRAZIL, DETERMINED BY INAA | 768 |
| <i>Daniele Dos Reis, Daniele Prado Dos Reis, Edson Gonçalves Moreira</i> | |

ENAN > E05 - RADIOACTIVE WASTE

| | |
|---|-----|
| USE OF CLAYS IN THE TREATMENT OF RADIOACTIVE AQUEOUS WASTE GENERATED AT THE CDTN..... | 772 |
| <i>Hellen Késia Santos De Souza, Daniela Hudson Hohleuwerger, Maria Judite Afonso Haucz, Carolina Braccini Freire</i> | |

| | |
|---|-----|
| THERMAL EVALUATION OF A CS-LOADED WASTE VITRIFICATION | 776 |
| <i>Danilo Lopes Costa E Silva, Mariana Silva Araujo, Denise Alves Fungaro, Sonia Regina Homem De Mello Castanho</i> | |

| | |
|---|-----|
| IMPACT OF DISTINCT TEMPERATURES IN PELLETS TO STRONTIUM IMMOBILIZATION | 781 |
| <i>Gabriella Omena Paschoal Sanches, Mariana Silva Araujo, Sonia Regina Homem De Mello Castanho</i> | |

| | |
|--|-----|
| CHARACTERIZATION AND DISPOSAL OF RADIOACTIVE WASTE PRODUCED BY THE RESEARCH AND PRODUCTION FACILITY FOR RADIOPHARMACEUTICALS (UPPR/CDTN) | 785 |
| <i>Beatriz Cancelier, Raquel Gouvêa Dos Santos, Maria Ângela De Barros Correia Menezes</i> | |

| | |
|---|-----|
| MODELING OF A HIGH-SECURITY RADIOACTIVE WASTE MANAGEMENT SYSTEM | 789 |
| <i>Fábio De Oliveira Neves, Tadeu Augusto De Almeida Silva</i> | |

| | |
|---|-----|
| CHARACTERIZATION OF SOIL WITH BENTONITE ADDITIONS FOR USE IN THE CENTENA DISPOSAL AREA | 793 |
| <i>Thais Braga Teixeira, Daisy Mary Marchezini Dos Santos, Clédola Cássia Oliveira De Tello</i> | |

| | |
|--|-----|
| REVIEW AND ESTABLISHMENT OF THE QUALITY MANAGEMENT SYSTEM OF THE CENTENA: ONE PROPOSAL..... | 797 |
| <i>Daisy Mary Marchezini Dos Santos, Maria Judite Afonso Haucz, Clédola Cássia Oliveira De Tello, Maria Ângela De Barros Correia Menezes</i> | |

| | |
|--|-----|
| DEVELOPMENT OF A METHOD TO ANALYZE CHLORINE-36 ACTIVITY CONCENTRATION IN RADIOACTIVE WASTES FROM NUCLEAR POWER PLANT | 801 |
| <i>Gabriella Souza Cardoso, Paulo Sérgio Cardoso Da Silva, Suellen Nobrega Coutinho</i> | |

| | |
|---|-----|
| COMPARATIVE LIFE CYCLE ANALYSIS OF GEOPOLYMERS FOR IMMOBILIZATION OF RADIOACTIVE WASTE..... | 805 |
| <i>Valeria Cuccia, Yann Santos, Rafael Soares Souza Pimenta De Almeida</i> | |

| | |
|---|-----|
| ATMOSPHERIC DISPERSION OF RN-222 FROM PHOSPHOGYPSUM PILES | 809 |
| <i>Victor Keichi Tsutsumiuchi, Roberto Vicente</i> | |

| | |
|---|-----|
| USE OF SAND EXTRACTION RESIDUE FOR SORPTION OF RADIOACTIVE WASTE | 814 |
| <i>Juniara Versieux, Carolina Braccini Freire, Fernando Soares Lameiras, Jakeline Pereira De Carvalho</i> | |

| | |
|--|-----|
| LONG-TERM INSTITUTIONAL STABILITY FOR RADIOACTIVE WASTE GOVERNANCE | 818 |
| <i>Cecilia Madeira De Menezes, Roberto Vicente, Julio Takehiro Marumo</i> | |
| EQUATION PROPOSAL FOR EVALUATING THE LEVEL OF SURFACE CONTAMINATION OF METAL SCRAP WITH NORM | 822 |
| <i>Vanderlei De Moura, Claubia Pereira</i> | |
| ACCOUNTING FOR RADIONUCLIDES GAMMA EMITTERS GENERATED IN REACTOR IEA-R1 | 828 |
| <i>Jefferson Koyaishi Torrecilha, Alberto De Jesus Fernando, Vicente Rodrigues Junior, Julian Marco Barbosa Shorto, Roberto Vicente, Paulo Sergio Cardoso Da Silva</i> | |
| STUDIES TO PROPOSE A CONCRETE CONTAINER TO CONDITION RADIOACTIVE WASTE PACKAGES | 831 |
| <i>Clédola Cássia Oliveira De Tello, Jamile Salim Fuina, Lídia Nara De Almeida Severo, Diego De Jesus Queiroz Rosa</i> | |
| HF NEUTRALIZATION FROM DECONTAMINATION PROCESS OF UF6 CRYOGENIC TRAP | 835 |
| <i>Adriano Ferreira Da Cunha, Eduardo Medeiros Junior</i> | |
| ROADMAP OF NORM MANAGEMENT IN THE OIL AND GAS INDUSTRY | 839 |
| <i>Ana Carolina Castello Da Silva Ribeiro, Wanderson Oliveira Souza, Francisco Cesar Augusto Da Silva</i> | |
| METHODOLOGY OF SLUDGE SEGREGATION IN OIL AND GAS OFFSHORE UNITS IN BRAZIL | 843 |
| <i>Marcelo Macedo Valinhas, Marco Aurélio Santos</i> | |
| CONSIDERATIONS ON HISTORICAL RADIOACTIVE WASTES ACCEPTANCE CRITERIA FOR FINAL DISPOSAL | 848 |
| <i>Paloma Suzane Cabrera, José Claudio Dellamano, Roberto Vicente</i> | |
| METHODOLOGY FOR FILTERS ANALYZING BY ACID EXTRACTION | 853 |
| <i>Paulo Sergio Cardoso Silva, Matheus Assis De Souza Almeida, Roberto Vicente, Marcus Paulo Rael, Suellen Nobrega Coutinho</i> | |
| ASSESSMENT OF CORROSION RESISTANCE OF PACKAGING FOR STORAGE OF RADIOACTIVE WASTE | 857 |
| <i>Raphael Gomes De Paula, Wagner De Almeida Machado, Amir Zacarias Mesquita, Luiz Leite Da Silva</i> | |
| SAFETY ASSESSMENT IN THE PREDISPOSAL MANAGEMENT OF DSRS | 862 |
| <i>Heloisa De Oliveira Reis, Roberto Vicente, Júlio Takehiro Marumo</i> | |
| SAILING THROUGH ATOMIC HAZARDS: STRATEGIES FOR NUCLEAR WASTE MANAGEMENT | 867 |
| <i>Ricardo Patrick Alvarenga De Melo</i> | |
| MODELING OF THE LEACHING TEST RESULTS OF WASTE PRODUCTS IN THE ENCAPSULATION OF BITUMINIZED | 870 |
| <i>Vanessa Mota Vieira, Clédola Cássia Oliveira De Tello</i> | |
| A RADIOCHEMICAL METHODOLOGY APPLIED TO ANALYSIS OF WASTE SAMPLES FROM PETROLEUM INDUSTRY | 874 |
| <i>Thiago César De Oliveira, Roberto Pellacani Guedes Monteiro, Amenônia Maria Ferreira Pinto, Maria Ângela Menezes, Fernanda Cristina Fonseca Camargo, Wagner Sousa</i> | |

| | |
|--|-----|
| CHALLENGES RELATED TO COMMUNICATING WITH THE PUBLIC ABOUT RADIOACTIVE WASTE DISPOSAL..... | 877 |
| <i>Lilian De Oliveira Bueno, Roberto Vicente</i> | |

| | |
|--|-----|
| METHODS OF LEACHING RELEASE MODELING IN RADIOLOGICAL SAFETY ASSESSMENTS IN DIFFERENT REPOSITORIES | 882 |
| <i>Rafael Soares Souza Pimenta De Almeida, Valeria Cuccia, Stela Dalva Santos Cota</i> | |

ENAN > E06 - APPLICATIONS TO CULTURAL HERITAGE

| | |
|---|-----|
| GAMMA IONIZATION LOGISTICAL PROTOCOL FOR DECONTAMINATION OF BIBLIOGRAPHIC COLLECTIONS: EXPERIMENTAL RESEARCH | 886 |
| <i>Susyleide Brito, Susyleide Gomes De Brito, Maria José A. Oliveira, Pablo Vasquez</i> | |

| | |
|---|-----|
| IMPUTATION IN EXPERIMENTAL RESULTS | 890 |
| <i>Casimiro Munita, André L. Nogueira, Casimiro S. Munita, Patricia R. Carvalho</i> | |

| | |
|--|-----|
| EFFECTS OF IONIZING RADIATION ON THE COLOR AND MORPHOLOGY PROPERTIES OF LEATHER | 894 |
| <i>Janete Stanziani Gibba, Larissa Otubo, Maria Jose Alves De Oliveira, Pablo Antonio Vasquez Salvador</i> | |

| | |
|---|-----|
| EFFECT OF GAMMA IRRADIATION ON CROSSLINKING OF POLYESTER-STYRENE RESIN: EXPERIMENTAL STUDY AND GLASS TRANSITION TEMPERATURE ANALYSIS | 898 |
| <i>Anderson Gomes De Jesus, Maria José Alves De Oliveira, Pablo Antonio Vásquez Salvador</i> | |

| | |
|---|-----|
| PARALOID RESINS WITH POLYMERIC MONOMERS CURED BY GAMMA RADIATION FOR CONSOLIDATION OF POROUS WOOD | 901 |
| <i>Maria José Alves De Oliveira, Mariana J. A. Araújo, Larissa Otubo, Sonia R. Castanho Mello, Pablo Antônio Salvador Vásquez</i> | |

| | |
|--|-----|
| EFFECTS OF IONIZING RADIATION ON ARTISTIC PAINTS AND PIGMENTS USED IN THE RESTORATION OF WORKS OF ART | 904 |
| <i>Hilda Pereselevicius Antonietto, Maria Jose Oliveira, Mariana Araujo, Larissa Otubo, Sonia Mello Castanho, Pablo Antonio Salvador Vasquez</i> | |

| | |
|--|-----|
| NON-DESTRUCTIVE EXAMINATION OF A POLYCHROME WOODEN SCULPTURE FROM DE 17TH CENTURY..... | 908 |
| <i>Roberta Manon De Paula Sales Borges, Ísis Verona Nascimento Da Silva Franzi, Josiane Emerich Cavalcante, Elaine Tavares De Gusmão, Anderson Gomes De Paula, Olga Maria Oliveira De Araújo, Ricardo Tadeu Lopes, Davi Ferreira De Oliveira</i> | |

| | |
|---|-----|
| GAMMA RADIATION FOR PRESERVATION: A NOVEL APPROACH TO DISINFECT VHS TAPES IN HISTORICAL ARCHIVES | 912 |
| <i>Maria Luiza Emi Nagai, Djalma Batista Dias, Pablo Antonio Vasquez Salvador</i> | |

| | |
|---|-----|
| PRESERVATION OF TAXIDERMIED ANIMAL SKINS INVOLVING THE USE OF IONIZING RADIATION | 916 |
| <i>Carmina Lupo, Maria José Alves De Oliveira, Mariana Silva De Araujo, Larissa Otubo, Sonia Regina De Mello Castanho, Pablo Antonio Vásquez Salvador</i> | |

| | |
|--|-----|
| RESTORATION OF CULTURALLY SIGNIFICANT WOODEN ARTIFACTS USING GAMMA RADIATION CURABLE POLYMERIC RESINS..... | 920 |
| <i>Maria Aparecida De Mores Gomes Pereira, Maria José Alves De Oliveira, Larissa Otubo, Vagner Fernandes, Pablo Antonio Vasquez Salvador</i> | |

| | |
|--|-----|
| X-RAY RADIOGRAPHIC ANALYSIS OF THE TWO WOODEN SCULPTURES OF 18TH CENTURY | 923 |
| <i>Davi Ferreira De Oliveira, Soraia Rodrigues De Azeredo, Renan Borges De Oliveira, Elaine Tavares De Gusmão, Ricardo Tadeu Lopes</i> | |

| | |
|--|-----|
| NON-DESTRUCTIVE ANALYTICAL METHODS FOR THE ANALYSIS OF MASTER VALENTIM'S WOODEN WORKS | 927 |
| <i>Josiane Cavalcante, Roberta Manon De Paula Sales Borges, Isis Verona Nascimento Da Silva Franzi, Rafael Azevedo Fontenelle Gomes, Anderson Gomes De Paula, Ricardo Tadeu Lopes, Davi Ferreira De Oliveira</i> | |

| | |
|--|-----|
| PORTABLE MA-XRF SCANNER DEVELOPMENT USING A RASPBERRY PI MICROCOMPUTER FOR ELEMENTAL CHARACTERIZATION OF A WOOD PAINTING | 931 |
| <i>Hamilton Santos Gama Filho, Hugo Boareto Souza Borges, Diogo Santos Silva Da Costa, Danilo De Oliveira Mansur, Fabio Takeo Shimizu Tsuyama, Roberta Gama Leitão, Catarine Canellas Gondim Leitão, Joaquim Teixeira De Assis, Marcelino José Dos Anjos</i> | |

| | |
|--|-----|
| PRESERVING CULTURAL HERITAGE THROUGH RADIATION-CURING RESIN CONSOLIDATION: A CASE STUDY OF AN INDIGENOUS CERAMIC VESSEL..... | 935 |
| <i>Ana Carolina Delgado Vieira, Pablo Antonio Vasquez Salvador, Maria José Alves De Oliveira, Fabiola Andréa Silva</i> | |

ENFIR > R01 - NUCLEAR REACTOR PHYSICS, ADVANCED NUCLEAR REACTORS

| | |
|--|-----|
| A HYBRID SETUP FOR NEUTRON IMAGING AND PROMPT-GAMMA ACTIVATION ANALYSIS AT RESEARCH REACTOR IEA-R1 | 939 |
| <i>Carlos Gabriel Santos Da Silva, Frederico Antonio Genezini, Alexandre Pinho Dos Santos Souza</i> | |

| | |
|---|-----|
| CLOSED NUCLEAR FUEL CYCLE STRATEGY FOR NUSCALE-LIKE REACTOR: SAFETY PARAMETERS EVALUATION | 943 |
| <i>Keferson De Almeida Carvalho, Graiciany De Paula Barros, Matheus Henrique Dos Santos Araujo, Andre Augusto Campagnole Dos Santos, Vitor Vasconcelos Araújo Silva, Tiago Augusto Santiago Vieira, Rebeca Cabral Gonçalves</i> | |

| | |
|--|-----|
| ANALYSIS OF THE MULTIPLICATIVE PROPERTIES OF BURNUP IN THE HIGH-PERFORMANCE LIGHT WATER REACTOR | 947 |
| <i>Fabián Luis Mena De La Noval, Leorlen Yunier Rojas Mazaira, Carlos Rafael García Hernandez, Universidad De La Habana, Dany Sanchez Dominguez, Mário Augusto Bezerra Da Silva, Carlos Alberto Brayner De Oliveira Lira</i> | |

| | |
|---|-----|
| ASSESSMENT OF BURNABLE POISON REACTIVITY IN THE ATF FUEL ASSEMBLY | 951 |
| <i>Alfredo Abe, Claudia Giovedi, Thiago Carluccio</i> | |

| | |
|---|-----|
| STUDY OF THE NEUTRON TRANSPORT EQUATION IN MOLTEN SALT SMALL MODULAR REACTORS | 955 |
| <i>Empar Navarro Gamón, Antoni Vidal-Ferràndiz, Gumersindo Jesús Verdú Martín</i> | |

| | |
|--|-----|
| EFFICIENT ACCELERATION IN SOLVING THE 2D NEUTRON DIFFUSION EQUATION WITH CUDA: EXPLORING THE COLLABORATIVE PRACTICALITY OF COLAB | 959 |
| <i>Paulo Igor De Oliveira Pessoa, Edson Henrice Junior</i> | |

| | |
|--|-----|
| ON THE STARTING AND OPERATIONAL TRANSIENTS AT THE FIRST CORE CONFIGURATION OF RMB BASED ON MULTIGROUP DIFFUSION THEORY | 963 |
| <i>Rubens Dos Santos</i> | |

| | |
|---|------|
| EXPERIMENTAL EVALUATION OF NEUTRON SPECTRA IN A NEUTRON IMAGING EQUIPMENT OF IEA-R1 REACTOR..... | 967 |
| <i>Rafael Massao Massuda, Frederico Antonio Genezini</i> | |
| CONCEPT ANALYSIS OF A FAST MODULAR REACTOR USING A CORE WITH MOVING PARTS..... | 970 |
| <i>Arthur Reis Martins, João Manoel Losada Moreira, Pedro Carlos Russo Rossi, Pedro Henrique Silva Rodrigues</i> | |
| PARAMETERIZED REPRESENTATION OF THE MACROSCOPIC SECTION OF THE PWR REACTOR WITH EFFICIENCY ANALYSIS..... | 976 |
| <i>João Claudio Batista Fiel</i> | |
| NEUTRONIC EVALUATION OF A SMR USING THE MCNP AND SERPENT CODES..... | 980 |
| <i>Natália Gonçalves Peixoto Lelis Oliveira, María Lorduy-Alós, Sergio Gallardo, Carlos Eduardo Velasquez, Clarysson Alberto Mello Da Silva, Gumersindo Verdu, Claubia Pereira</i> | |
| HIGH ORDER ASYMPTOTIC EXPRESSIONS FOR THE DOPPLER BROADENING FUNCTION..... | 984 |
| <i>Guilherme Guedes De Almeida, Alexandre José Miranda Antunes, Daniel Artur Pinheiro Palma</i> | |
| STEADY-STATE NEUTRONIC ASSESSMENT OF A MICRO REACTOR BASED ON NASA'S KRUSTY PROJECT..... | 991 |
| <i>Gabriel Barbosa Domingos, Clarysson Alberto Mello Da Silva, Claubia Pereira Bezerra Lima</i> | |
| THE USE OF A HEAT-CONDUCTING LIQUID METAL SUBLAYER IN FUEL RODS FOR NUCLEAR REACTORS..... | 995 |
| <i>Leonardo Paredes Pires, Leonardo Paredes Pires, Aleksander Borisovich Kruglov</i> | |
| STEADY STATE COUPLED CALCULATIONS (SERPENT-GEN-FOAM) APPLIED TO MOLTEN SALT FAST REACTOR (MSFR)..... | 999 |
| <i>Tiago Augusto Santiago Vieira, Yasmin Martins Carvalho, Geovana Carvalho Silva, Keferson De Almeida Carvalho, Rebeca Cabral Gonçalves, Geovana Loren Da Cruz, Vitor Vasconcelos Araújo Silva, Graiciany De Paula Barros, Andre Augusto Campagnole Dos Santos</i> | |
| CALCULATING THE EXPECTED EFFECTIVE MULTIPLICATION FACTOR AND NEUTRON SCALAR FLUX PROFILE IN STATISTICALLY HOMOGENEOUS RANDOM MEDIA USING A NONCLASSICAL MODEL..... | 1003 |
| <i>Leonardo Rodrigues Da Costa Moraes, Ricardo Carvalho De Barros, Richard Vasques</i> | |
| SIMULATION OF THE CONTROL OF A THERMAL NUCLEAR REACTOR THROUGH A FUZZY PID CONTROLLER COUPLED TO THE CORE'S NEUTRONIC CONTROL SYSTEM AND ITS EFFECTS ON THE PRIMARY PRESSURE AND INSTRUMENTATION SYSTEM..... | 1007 |
| <i>Caetano Soares Fajardo</i> | |
| EPITHERMAL LEAD-COOLED MICRO-REACTOR USING FUEL-MODERATOR ASSEMBLIES..... | 1011 |
| <i>Seung Min Lee, Eduardo Lobo Lustosa Cabral, Miguel Mattar</i> | |
| STUDY OF TYPES OF SALTS FOR IMSR..... | 1015 |
| <i>Isabella Magalhães, Gabriel Calegario, Isabella Rezende Magalhães, Claubia Pereira, Clarysson Silva</i> | |

| | |
|---|------|
| STUDY OF CRITICALITY OF A FUEL ROD CLADDED WITH ZIRCALOY DOPED WITH GRAPHENE NANOTUBES..... | 1019 |
| <i>Thomaz Lopes, Ary Machado Azevedo, Joana Batista Soares, Marcos Paulo Cavaliere De Medeiros, Wallace Vallory Nunes, Sergio Neves Monteiro, Domingos D'Oliveira Cardoso, André Ben-Hur Da Silva Figueiredo, Paulo Cezar Rocha Silveira, Fernando Manuel Araújo Moreira</i> | |
| SIMULATION OF A HYPOTHETICAL NUCLEAR FUEL ELEMENT WITH NIOBIUM-DOPED ZIRCALOY CLADDING..... | 1022 |
| <i>Ary Machado De Azevedo, Thomaz Jacintho Lopes, Marcos Paulo Cavaliere De Medeiros, Fernando Manuel Moreira, Wallace Vallory Nunes, Joana Batista Soares, Paulo Cezar Rocha Silveira, Sérgio Neves Monteiro, Domingos D'Oliveira Cardoso, André Ben-Hur Da Silva Figueiredo</i> | |
| COMPARATIVE ANALYSIS OF THE CRITICALITY OF A HYPOTHETICAL REACTOR FUEL ELEMENT WITH SIC-DOPED ZIRCALOY-4 RODS..... | 1025 |
| <i>Ary De Azevedo, Thomaz Jacintho Lopes, Marcos Paulo Cavaliere De Medeiros, Fernando Manuel Moreira, Wallace Vallory Nunes, Joana Batista Soares, Paulo Cezar Rocha Silveira, Sérgio Neves Monteiro, Domingos D'Oliveira Cardoso, André Ben-Hur Da Silva Figueiredo</i> | |
| SIMULATION OF A HYPOTHETICAL PWR FUEL ELEMENT WITH MOLYBDENUM-DOPED ZIRCALOY CLADDING..... | 1029 |
| <i>Thomaz Lopes, Ary Machado Azevedo, Joana Batista Soares, Wallace Vallory Nunes, André Ben-Hur Da Silva Figueiredo, Marcos Paulo Cavaliere De Medeiros, Paulo Cezar Rocha Silveira, Domingos D'Oliveira Cardoso, Sergio Neves Monteiro, Fernando Manuel Araújo Moreira</i> | |
| UNRAVELING THE SECRETS OF THE MOLTEN SALT REACTOR: A JOURNEY THROUGH NEUTRONICS ANALYSIS..... | 1033 |
| <i>Magda Tororó, Itamar Arnaldo Tororó Pereira, Cláudio Luiz De Oliveira, Ronaldo Glicério Cabral, Sergio De Oliveira Vellozo</i> | |
| STUDY ON PARAMETERS OF ADS SPALLATION TARGETS FOR ACTINIDES TRANSMUTATION..... | 1037 |
| <i>José Cassimiro Da Silva, Natália Gonçalves Peixoto Lelis Oliveira, Karytha Merie Silva Corrêa, Carlos Eduardo Velasquez Cabrera, Cláudia Pereira Bezerra Lima</i> | |
| COMPARISON OF MCNP AND OPENMC MONTE CARLO CODES ON STEADY-STATE NEUTRONIC SIMULATION OF SEALER NUCLEAR REACTOR..... | 1041 |
| <i>Jefferson Campos Duarte, Thalles Oliveira Campagnani, Clarysson Alberto Mello Da Silva, Cláudia Pereira Bezerra Lima</i> | |
| FUEL ELEMENT MICROREACTOR INTEGRATING A SQUARE UO ₂ FUEL ROD WITH AN INTERNAL HEAT PIPE..... | 1045 |
| <i>Horus Ibrahim Orlandi, Pedro Carlos Russo Rossi, Adolfo Aguiar Braid, João Manoel Losada Moreira</i> | |
| PREVIOUS ANALYSIS OF FUELS WITH TRANSURANIC INSERTED INTO THE HYBRID FUSION-FISSION ARC REACTOR..... | 1053 |
| <i>Karytha Merie Silva Corrêa, Natália Gonçalves, Cláudia Pereira, Carlos E. Velasquez</i> | |
| PRELIMINARY STUDY TO PROPOSE A PWR SMALL MODULAR REACTOR FOR A NUCLEAR POWERED SUBMARINE..... | 1057 |
| <i>Thais Duarte Tavares, Gaiânê Sabundjian</i> | |

FLOATING NUCLEAR POWER PLANT: OPTION FOR WATER DESALINATION IN BRAZIL 1061
*Maritza R. Gual, Maritza Rodriguez Gual, Hugo Da Costa Romberg, Nathalia Nunes Araujo,
Marcos C. Maturana*

**ENFIR > R02 - NUCLEAR REACTOR THERMAL HYDRAULICS, REACTOR SAFETY
ANALYSIS, NUCLEAR REACTOR LICENSING AND REGULATION**

PERIODIC SAFETY REVIEW (PSR) FOR RESEARCH REACTORS IN BRAZIL 1063
Ana Rosa Baliza Maia, Amir Mesquita Zacarias, Jefferson J Vilela., Valériaalcântara E Alves

CRITICAL COMPONENT IDENTIFICATION PROCESS FOR ANGRA 1 ACCORDING TO
INPO AP913 1067
*Ana Rosa Maia, Amir Mesquita Zacarias, Jefferson J. Vilela., Hugo Da Silva Ferreira.,
Augustin A. Lopez., Valéria E. Alcântara E Alves.*

TOWARDS EFFICIENT AND ACCURATE THERMAL-HYDRAULIC SIMULATIONS:
TURBULENCE MODELING FOR AQUEOUS HOMOGENEOUS REACTORS..... 1071
*Daniel Milian Pérez, Abel Gamez Rodríguez, Daniel Evelio Milian Lorenzo, Carlos Alberto
Brayner De Oliveira Lira*

METHODOLOGY FOR SAFETY ANALYSIS OF A NUCLEAR-POWERED SUBMARINE
APPLIED TO THE BRAZILIAN COASTAL ZONE 1075
*Matheus Cintra Goncalves, Miguel Mattar Neto, Patricia Da Silva Pagetti De Oliveira,
Marcos Coelho Maturana*

IPR-R1 TRIGA REACTOR AGING MANAGEMENT APPROACH 1079
Denise Camarano, Emanuelle Costa Silva, Jefferson José Vilela, Amir Zacarias Mesquita

IMPROVEMENTS AND SAFETY ANALYSIS ON THE TECHNOLOGIES OF CURRENT
NUCLEAR POWER SYSTEMS FOR REMOTE PLACES AND OUTER SPACE 1083
Julio De Oliveira Junior, Dmitry Sergeyeovich Samokhin

NUMERICAL ANALYSIS OF THE RECTANGULAR NATURAL CIRCULATION LOOP OF
IPEN/CNEN-SP IN THE DYMOLA 1088
Pedro Alexandre Pinto Celestino, Marcelo Da Silva Rocha

ANALYSIS OF SUPERCRITICAL FLUID BLOWDOWN 1098
*Fabián Luis Mena De La Noval, Thiago Daboit Roberto, Mário Augusto Bezerra Da Silva,
Celso Marcelo Franklin Lapa , Carlos Alberto Brayner De Oliveira Lira*

AN OVERVIEW OF THE XM3 SLOW POWER RAMP TRANSIENT STAIRCASE EXERCISE1102
Daniel De Souza Gomes, Daniel De Souza Gomes

ADVANCED TOLERANT-FUELS COMPOSITES OF URANIUM NITRIDE AND SILICIDE.....1106
Daniel Gomes, Daniel De Souza Gomes, Fabio Branco Vaz De Oliveira

ANALYSIS OF HEAVY LIQUID-METAL COOLANTS 1110
Daniel Gomes

RISK ANALYSIS IN THE INSTALLATION OF SMALL MODULAR REACTORS IN ENERGY
POOR REGIONS IN BRAZIL..... 1114
Vitor Schneider Assi Pereira, Gaiane Sabudjian

FLUID DYNAMIC INVESTIGATION OF THE CROSS-FLOW BETWEEN FUEL
ASSEMBLIES IN SMALL MODULAR REACTORS 1118
Larissa Pinheiro, Pedro Vinhas, Pedro Nishiyama

| | |
|---|------|
| THERMAL-HYDRAULIC MODEL OF THE HOTTEST FUEL ASSEMBLY FROM THE SMART SMALL MODULAR REACTOR..... | 1122 |
| <i>Cristian Gabriel De Oliveira, Dario Martin Godino, Alirio Johan Sarache Piña, Ivan Keiti Umezu, Clarysson Albeto Mello Da Silva, Antonella Lombardi Costa, Bruno Vioti Melo</i> | |
| SAFETY ANALYSIS REPORTS OF FIRST-OF-A-KIND NUCLEAR REACTORS IN BRAZIL: PROPOSAL OF CONTENT FOR DETERMINISTIC SAFETY ANALYSIS | 1126 |
| <i>Nelson Luiz Dias Ferreira, Claudia Giovedi Motta, Mike Modro, Alessandro Petruzzi</i> | |
| IMPROVING THE TECHNICAL MANAGEMENT OF NUCLEAR LICENSING PROCESSES IN BRAZIL: THE APPLICANT'S ROLE..... | 1130 |
| <i>Claudia Giovedi, Nelson Ferreira, Alfredo Abe</i> | |
| CFD CONTRIBUTION FOR THERMO-HYDRAULIC CODE QUALIFICATION PROCESS APPLIED IN SAFETY ANALYSIS | 1134 |
| <i>Pedro Andrade Maia Vinhas, Claudia Giovedi Motta, Fernando Lage, Hugo Galvão, Alessandro Petruzzi</i> | |
| A STUDY ON APPLICATION OF SPAR-H METHOD FOR HUMAN RELIABILITY ANALYSIS OF AN ELECTRIC-ELECTRONIC SYSTEM OF A MECHANISM FOR MOVING A NUCLEAR FUEL IRRADIATION CAPSULE | 1137 |
| <i>Eduardo Tadeu Stehling Saraiva, Vanderley De Vasconcelos, Daniel De Almeida Magalhães Campolina</i> | |
| QUANTIFYING UNCERTAINTY IN NUCLEAR SAFETY ASSESSMENTS: COMPARING METHODS AND LOOKING INTO FUTURE DIRECTIONS..... | 1141 |
| <i>H. Aquino, N. Araujo, P. Lopes, M. Maturana, M. Martins</i> | |
| ESTIMATING THE RISK OF DEVELOPING SOLID CANCER AS A FUNCTION OF METEOROLOGICAL CONDITIONS IN A LOCA SCENARIO | 1144 |
| <i>Zelmo Rodrigues De Lima, Juliana Luzié Oliveira Pereira, Rafael Fagundes Rangel, Simão Cirineu Zoccolaro, Thiago Arrais Soares</i> | |
| ANALYSIS OF THE CASP2 EXPERIMENT IN THE BATTELLE CONTAINMENT MODEL USING THE CODE COCOSYS..... | 1148 |
| <i>Hugo Pontes Galvão, Claudia Giovedi Motta, Alfredo Yuuitiro Abe, Ana Carolina Bortolletto Dantas</i> | |
| NODALIZATION OF MISTRA FACILITY FOR ISP-47 EXPERIMENT USING LUMPED PARAMETER CODE COCOSYS..... | 1152 |
| <i>Ana Carolina Dantas, Hugo Pontas Galvão, Alfredo Yuuitiro Abe, Claudia Giovedi Motta</i> | |
| THERMOHYDRAULIC PERFORMANCE IN SMR REACTORS WITH MIXED OXIDE (U, TH)O ₂ FUEL: A COMPUTATIONAL APPROACH..... | 1156 |
| <i>Pedro Emanuel Moraes Santos, Mariana Cecilia Betancourt, Leorlen Yunier Rojas Mazaira, Carlos Rafael García Hernández, Dany Sanchez Dominguez, Carlos Alberto Brayner De Oliveira Lira</i> | |
| STUDY ON THE LICENSING FRAMEWORK FOR LAND FACILITIES SUPPORTING NUCLEAR-POWERED SUBMARINES IN THE UNITED KINGDOM | 1160 |
| <i>Douglas Brandão Baroni, Sad Sandrini Borsoi, Yuri Sartore Almada Soares, Patricia Da Silva Pagetti, Miguel Mattar Neto, Marcos Coelho Maturana</i> | |

| | |
|--|------|
| DIGITAL SIMULATION FOR EDUCATION AND TRAINING IN THE OPERATION OF TRIGA-TYPE NUCLEAR RESEARCH REACTORS | 1164 |
| <i>Adriano De Almeida Massaud Felipe, Amir Zacarias Mesquita, Aldo Márcio Fonseca Lage, Alexandre Soares Leal, Vitor Fernandes De Almeida</i> | |
| PROPOSAL FOR SAFETY CLASSIFICATION OF SSC FOR LAND FACILITIES SUPPORTING NUCLEAR-POWERED SUBMARINES..... | 1168 |
| <i>Douglas Brandão Baroni, Helio Massaharu Murata, Fagner Chagas Rother, Anelise Ruzzarin, William Henrique Silva Profeta, Sad Sandrini Borsoi, Eduardo Ascenso Reis Ribeiro, Luana Soares Jorge</i> | |
| PROPOSAL FOR A METHODOLOGY FOR UNIFIED SELECTION OF INITIATING EVENTS FOR SAFETY ANALYSIS OF NUCLEAR REACTORS..... | 1172 |
| <i>Roberto Pereira De Oliveira, Vitor Silveira Medeiros, Pedro Julio Batista De Oliveira Nishiyama</i> | |
| THERMAL-HYDRAULIC MODELING OF A SMALL MODULAR REACTOR CORE USING RELAP5 | 1175 |
| <i>Bruno Viotti De Melo, Antonella Lombardi Costa, Cristian Oliveira, Clarysson Alberto Mello Da Silva, Lucas Patric Cardoso Leão, Gustavo Luiz Araújo Ribeiro</i> | |
| VALIDATION OF COMPUTATIONAL FLUID DYNAMICS SIMULATIONS IN SMALL MODULAR REACTOR PROJECTS USING RADIOACTIVE PARTICLE TRACKING TECHNIQUE..... | 1179 |
| <i>Wilson Dos Santos Vieira, Hagos Mariano De Souza Vieira, Eudes Bertony Vieira, Carlos Alberto Brayner De Oliveira Lira</i> | |
| A MECHANISTIC MODEL FOR ANNULAR FLOW AND HEAT TRASNFER IN A ROD BUNDLE..... | 1184 |
| <i>Mayara Francisca Reis De Souza, Celso Garnica Mota, Su Jian</i> | |
| CFD MODELING FOR APPLICATION IN PROTOTYPES PRINTED WITH 3D PRINTING | 1189 |
| <i>Wallen Ferreira De Souza, Ana Laura Coutinho, Maria Auxiliadora Fortini Veloso, Graiciany De Paula Barros, Andre Augusto Campagnole Dos Santos</i> | |
| VOID COEFFICIENT OF REACTIVITY IN THE IPEN/MB-01 RESEARCH REACTOR WITH PLATE-TYPE FUEL ELEMENTS | 1193 |
| <i>Ulysses Bitelli, Hugo Rodrigues Landim, Maisa Goes Nunes, Misael De Sousa Jurema Junior, Rubens Seishi Wassano, Rodrigo Renan Baroni, Rafael Castro Monteiro, Marco Antonio Sabo, Luis Alberto Bocardo, Reginaldo Gilioli</i> | |
| METHODOLOGY APPLIED IN THE IDENTIFICATION OF IMPORTANT SSC FOR DESIGN EXTENSION CONDITIONS IN A NPP | 1196 |
| <i>Maritza Rodriguez Gual, Jorge Armando Pereira Junior</i> | |

ENFIR > R03 - APPLIED MATHEMATICS AND COMPUTATION, COMPUTATIONAL FLUID DYNAMICS

| | |
|--|------|
| CFD MODELING OF A SMALL MODULAR LEAD-COOLED FAST REACTOR: STEAM GENERATOR TEMPERATURE-DEPENDENT HEAT SINK FUNCTION | 1199 |
| <i>Ivan Keiti Umezu, Dario Martin Godino, Cristian Oliveira, Antonella Lombardi Costa, Clarysson Alberto Mello Da Silva, Claubia Pereira</i> | |

| | |
|---|------|
| STUDY OF THE VAPORIZATION KINETICS OF CD IN AG-IN-CD ALLOYS | 1204 |
| <i>Guilherme Costa De Oliveira, José Milton Gabriel Lopes, Victor Daniel Rodrigues Fogaça, Selma Luiza Silva Batocchio, José Marcelo Soares, Marco Aurélio De Souza Goes</i> | |
| APPLICATION OF THE METHOD OF CHARACTERISTICS IN FLUID-STRUCTURE INTERACTION PROBLEMS OF HYDRAULIC SYSTEMS WITH FOUR DEGREES OF FREEDOM..... | 1208 |
| <i>Micelli Rodrigues Camargo, Marcelo Da Silva Rocha, Josie Aguila Alves De Campos.</i> | |
| CFD MODELLING OF DESALINATION USING DIRECT CONTACT MEMBRANE DISTILLATION (DCMD) | 1213 |
| <i>Paulo Augusto Berquó De Sampaio</i> | |
| COMPARISON OF DIFFERENT MESH ELEMENTS IN SIMULATING A SPACER GRID..... | 1216 |
| <i>Tiago Augusto Santiago Vieira, Yasmim Martins Carvalho, Pedro Henrique Araújo, Davi Cury, Vitor Vasconcelos Araújo Silva, Graiciany De Paula Barros, Andre Augusto Campagnole Dos Santos</i> | |
| THE USE OF POROUS ZONES TO SIMULATE THE HYDRAULIC BEHAVIOR OF FUEL ELEMENTS IN A SMALL MODULAR REACTOR MODEL..... | 1220 |
| <i>Rebeca Cabral Gonçalves, Geovana Carvalho Silva, Fernando Lage Araújo Schweizer, Pedro Andrade Maia Vinhas, Vitor Vasconcelos Araújo Silva, Graiciany De Paula Barros, Andre Augusto Campagnole Dos Santos</i> | |
| FROM CUDA TO OPENACC: DEMOCRATIZING GPU COMPUTING IN NUCLEAR SCIENCE | 1224 |
| <i>Guilherme Dutra Gonzaga Jaime, Guilherme De Melo Baptista Domingues, Fernando Rodrigues Trindade Ferreira</i> | |
| GEN-FOAM FIRST ASSESSMENT FOR SIMULATION OF SPACER GRIDS..... | 1228 |
| <i>Tiago Augusto Santiago Vieira, Carlos Rodrigo Dias, Vitor Vasconcelos Araújo Silva, Graiciany De Paula Barros, Andre Augusto Campagnole Dos Santos</i> | |
| APLICAÇÃO DE UMA METODOLOGIA NUMÉRICA PARA O PROCESSAMENTO E AVALIAÇÃO DA CIRCULAÇÃO NATURAL EM REATORES NUCLEARES | 1232 |
| <i>José Luiz Horacio Faccini, Laira Lopes Silva, Leandro Tavares Da Silva</i> | |
| 3D CAD PILOT UNIT DESIGN AND SIMULATION OF TWO-PHASE FLOW CIRCULATION IN FULL LOOP WITH HIGH SOLIDS CONCENTRATION | 1236 |
| <i>Leandro Claudino Da Silva, Carlos Costa Dantas, Silvio De Barros Melo, Milton Dos Santos Viana, Eudes Bertony Vieira</i> | |

VOLUME 3

ENFIR > R04 - ARTIFICIAL INTELLIGENCE AND VIRTUAL REALITY, NUCLEAR REACTOR INSTRUMENTATION AND CONTROL, MAN MACHINE INTERFACE

| | |
|---|------|
| REAL-TIME EXPERT SYSTEM TO SUPPORT DECISION-MAKING IN NUCLEAR ACCIDENTS WITH RELEASE OF RADIOACTIVE PLUME | 1246 |
| <i>Bernardo Mendonça Caixeta, Vinicius Drumond Gonzaga, Andressa Dos Santos Nicolau, Roberto Schirru, Claudio Marcio Nascimento Abreu Pereira</i> | |
| VIRTUAL VISIT TO RESEARCH REACTOR IPEN/MB-01 | 1250 |
| <i>Hélio Pires Julião Borges Coelho, Gaiané Sabundjian</i> | |

| | |
|---|------|
| CITY OF SCIENCE AT THE MUSEUM OF NUCLEAR KNOWLEDGE: AN ENVIRONMENT TO EXPERIENCE SCIENCE..... | 1254 |
| <i>Júlia Wagner Pereira, Letícia A. F. Alves, Robson Bruno F. Da S. Amador, Gabriel Mello Dos S. A. Mol, Hilary Da Silva Lima, Raphael Rodrigo Pereira, Ana Paula L. De Siqueira, André Cotelli Do Espírito Santo, Sara Isnardo Fernandes, Eugenio R. Marins E Antonio C. A. Mol</i> | |
| USE OF AUGMENTED REALITY IN THE DESIGN OF LAND FACILITIES SUPPORTING NUCLEAR-POWERED SUBMARINES..... | 1258 |
| <i>Douglas Brandão Baroni, Rodrigo Dos Reis Toth, Cristiane Lopes Canuto, Sad Sandrini Borsoi, Gabriel Nóbile Diniz</i> | |
| ARGONAUTA VIRTUAL EXHIBITION: PRESENTATION ON THE IMPORTANCE OF A RESEARCH REACTOR..... | 1262 |
| <i>Júlia Wagner Pereira, Letícia Antunes Ferreira Alves, Robson Bruno Fernandes Da Silva Amador, Gabriel Mello Dos Santos Abreu Mol, Hilary Da Silva Lima, Raphael Rodrigo Pereira, Ana Paula Legey De Siqueira, André Cotelli Do Espírito Santo, Sara Isnardo Fernandes, Eugenio Rangel Marins</i> | |
| METODOLOGIA, BASEADA EM CIÊNCIA DE DADOS, DE ANÁLISE DE DOSES DE RADIÇÃO IONIZANTE DE TRABALHADORES EXPOSTOS OCUPACIONALMENTE..... | 1266 |
| <i>Bruno José Borrajo Domingues, Tadeu Augusto De Almeida Silva</i> | |
| DEVELOPMENT OF NUCLEAR INSTRUMENTATION USING PROTEUS SOFTWARE..... | 1270 |
| <i>Mauro Vitor De Oliveira, Marcos Santana Farias</i> | |
| REMOTE RADIATION MONITOR WITH DOOR LOCKING FOR SAFE CYCLOTRON OPERATION..... | 1274 |
| <i>Fábio Lacerda, Marcos Santana Farias</i> | |
| DEVELOPMENT OF AN "IN-MAST" FUEL MONITORING SYSTEM FOR NUCLEAR POWER PLANTS..... | 1278 |
| <i>Mauro Vitor De Oliveira, Marcos Santana Farias</i> | |
| AUTOMATION SYSTEM OF INITIAL OPERATION CONDITIONS AND ACCIDENT IDENTIFICATION FOR LABIHS SIMULATOR..... | 1282 |
| <i>Silas Cordeiro Augusto, Vinicius Cardoso Brum, Cláudio Márcio Nascimento Abreu Pereira, Cláudio Henrique Dos Santos Grecco, Marcos Santana Farias, Guilherme Dutra Jaime, Helio Carlos Leite Oliveira, Nelson Fernandes</i> | |
| OPTIMIZATION OF NUCLEAR FUEL BURNUP WITH GENETIC ALGORITHMS TO MAXIMIZE PWR OPERATION CYCLE LENGTH..... | 1285 |
| <i>Pedro Henrique Silva Rodrigues, Arthur Reis Martins, José Rubens Maiorino</i> | |
| ADMINISTRATION MODULE (DYNAMIC LOAD-BALANCING SYSTEM)..... | 1289 |
| <i>Francisco Junqueira Muniz</i> | |
| AN LSTM MODEL APPLIED TO WIND FORECAST IN A BRAZILIAN NUCLEAR POWER PLANT SITE: BASIC INVESTIGATIONS..... | 1293 |
| <i>Cláudio Márcio Do Nascimento Abreu Pereira, Ana Gabriella Amorim Abreu Pereira</i> | |
| MODERNIZATION OF HIGH-VOLTAGE POWER SUPPLIES FOR IONIZATION CHAMBERS OF ARGONAUTA RESEARCH REACTOR..... | 1297 |
| <i>Fábio Lacerda, Marcos Santana Farias</i> | |
| DATA SERVER DEVELOPMENT FOR STORAGE AND PROCESSING OF ARGONAUTA REACTOR OPERATION DATA..... | 1301 |
| <i>Guilherme Dutra Gonzaga Jaime, Marcos Santana Farias, Levy Farias</i> | |

THE DEVELOPMENT OF THE GENERATIVE AI-BASED TOOL 'WIZZARD MACHINE'
SPECIALIZED IN THE BRAZILIAN RADIOISOTOPE MARKET 1305
*Larissa Cunha Pinheiro, Ricardo Fernandes De Araújo, Iago Gomes, João Victor Gioseffi
Maciel Alegrio Lopes*

POWER DISTRIBUTION RECONSTRUCTION FROM INCORE DETECTOR
MEASUREMENTS USING GAUSSIAN PROCESS REGRESSION FOR THE ANGRA 1
REACTOR 1309
*Artur Souza E Silva, Willian Vieira De Abreu, João Domingos Talon, Adilson Costa Da Silva,
Aquilino Senra Martinez, Alessandro Da Cruz Gonçalves*

IOT SUPERVISION PLATFORM FOR THE TRIGA IPR-R1 REACTOR 1312
*Thalles Oliveira Campagnani, Luiz Claudio Andrade Souza, Carlos Eduardo Velasquez
Cabrera*

EXPLAINABLE ARTIFICIAL INTELLIGENCE APPLIED TO IMAGES OF TWO-PHASE
FLOW 1316
Sandro Minarrine Cotrim Schott, R. N. De Mesquita

**ENFIR > R05 - STRUCTURAL MECHANICS, NUCLEAR REACTOR FUEL FABRICATION
AND DESIGN, FUEL CYCLE MANAGEMENT AND SERVICES**

DYNAMICS OF HYDRIDE FORMATION IN ZIRCALOY-4 FOR NUCLEAR APPLICATIONS 1320
*Beatriz Rovelo, Leonardo Henrique Comini Francisco, Nathanael Wagner Sales Moarais,
José Oscar Vega Bustillos*

THE EFFECTS OF SUPPORT NONLINEARITIES IN THE PIPING STRUCTURAL RESPONSE 1324
Joedson Teixeira De Almeida, Miguel Mattar Neto

DEPLETION AND INVENTORY CALCULATION FOR THE NEW FUEL OF IEN'S
ARGONAUTA REACTOR 1328
Iago De Oliveira Gomes, Victor Lusi Lassance Cunha, Maria De Lourdes Moreira

SIMULATION OF SPACER GRID STATIC COMPRESSION TEST USING FINITE ELEMENT
MODELS 1332
Rafael Silva Brandão Dos Santos, Claudia Giovedi Motta

ANALYSIS OF FUEL RODS BUCKLING THROUGH COMPUTER SIMULATION USING
THE FINITE ELEMENT METHOD WITH SHELL AND SOLID ELEMENTS 1336
Leonardo De Souza Lima, Claudia Giovedi Mota

STUDY OF THE RENEWED PIPEWORK OF THE TR-1B COOLING TOWER OF THE IEA-R1
RR 1340
Altair Antonio Faloppa, Gerson Fainer, Joedson Teixeira De Almeida, Miguel Mattar Neto

CANONICAL CORRELATION BETWEEN BURST PARAMETERS OF ZIRCALOY RODS IN
ACCIDENT CONDITIONS 1344
Andre Alexandrino Lotto

THERMO-MECHANICAL ANALYSIS OF THE CORE VESSEL OF PEBBLE BED HIGH
TEMPERATURE REACTORS 1348
Abel Gámez Rodríguez, Daniel Milian Pérez, Carlos Alberto Brayner De Oliveira Lira

| | |
|---|------|
| CASE STUDY OF THE EFFECT OF THERMAL TREATMENT DURING AND AFTER CASTING OF AN AG-IN-CD ALLOY | 1352 |
| <i>Guilherme Costa De Oliveira, José Milton Gabriel Lopes, Victor Daniel Rodrigues Fogaça, José Roberto Ferreira Neto, Diogo Costa De Oliveira</i> | |
| COMPARISON BETWEEN IN-REACTOR OXIDATION BEHAVIOR OF IRON AND ZIRCONIUM ALLOYS | 1356 |
| <i>Caio Fernandes De Melo Lima, Régis Reis</i> | |
| ELASTIC BEHAVIOR OF A PWR SPACER GRID SPRING: EXPERIMENTAL CHARACTERIZATION AND COMPUTATIONAL SIMULATION | 1360 |
| <i>Natália De Oliveira Souza, Natália De Oliveira Souza, Douglas Francis Alves Ferreira, Leonardo De Souza Lima</i> | |
| MICROSTRUCTURAL CHARACTERIZATION OF AUSTENITIC STAINLESS STEEL NUCLEAR GRADE TUBES SUBMITTED TO LASER MARKING PROCESS | 1364 |
| <i>Douglas Francis Alves Ferreira, Natalia De Oliveira Souza</i> | |
| A PURIFICATION PROCESS FOR THE TETRAURANIUM FLUORIDE EFFLUENT | 1368 |
| <i>Rafael Garcia, Elita Fontenele Urano De Carvalho, Yasko Kodama, Devin L. Shaffer, Humberto Gracher Riella, Giovanni Cabral Conturbia</i> | |
| INTERLAMINAR FRACTOGRAPHIC OF CARBON FIBER/EPOXY COMPOSITES | 1372 |
| <i>Kletson Vieira Da Silva, Gerson Marinucci, Delvonei Alves De Andrade</i> | |
| RECRYSTALLIZATION STUDY OF THE 348 STAINLESS STEEL | 1376 |
| <i>Nathanael Wagner Sales Morais, Mateus Perroti, Luiz Gallego Martinez, Zacarias Eduardo Fabrim, Cláudio Geraldo Schon, Edson Garcia Gomes, Jesualdo Luiz Rossi</i> | |
| A SMALL PUNCH TEST DEVICE DEVELOPED FOR LOW TEMPERATURE TESTS WITH INITIAL ACCEPTANCE RESULTS | 1380 |
| <i>Altair Antonio Faloppa, Carlos Alexandre De Jesus Miranda, José Rodrigues De Lima, Raquel De Moraes Lobo, Fernando Da Silva Caja, Miguel Mattar Neto</i> | |
| ANALYTICAL METHOD VALIDATION FOR HYDROGEN AND NITROGEN QUANTIFICATION IN AUSTENITIC STAINLESS STEEL THIN WALL TUBES | 1384 |
| <i>Fábio De Camargo, Diego Ferreira Lima, Júlio César De Paiva, Florinda Vieira, Ieda De Souza Silva</i> | |
| IMPRESSED CURRENT EFFECTS ON A METAL SUBJECT TO DIFFERENT ELECTROLYTES | 1388 |
| <i>Wagner De Almeida Machado, Raphael Gomes De Paula, Amir Zacarias Mesquita, Wallacy Viana</i> | |
| <u>ENFIR > R06 - NUCLEAR POWER PLANT VIABILITY, DESIGN, CONSTRUCTION AND OPERATION, ENVIRONMENTAL IMPACT APPLIED TO NUCLEAR REACTORS AND FUEL CYCLE</u> | |
| ENVIRONMENTAL COSTS OF NUCLEAR REACTORS: A LITERATURE REVIEW | 1392 |
| <i>Flavia Paladino Biaty, Giovana Ciongoli, Patricia Andrea Paladino, Gaianê Sabundjian</i> | |
| DEVELOPMENT OF A PROTOTYPE ROV FOR UNDERWATER INSPECTIONS IN THE IEA-R1 REACTOR POOL | 1396 |
| <i>Giovana Ciongoli, Flávia Paladino Biaty, Gaianê Sabundjian, Patricia Andrea Paladino</i> | |

| | |
|---|------|
| THERMOPHYSICAL CHARACTERIZATION OF URANIUM ALLOYS AND DOPED UO2 PELLETS | 1400 |
| <i>Denise Camarano, Ana Maria Matildes Dos Santos</i> | |
| SMART NUCLEAR REACTOR: SAFETY AND RADIOPROTECTION TO ENABLE THE ENERGY TRANSITION IN BRAZIL..... | 1404 |
| <i>Gleyson Santos, José Ubiratan Delgado, José Francisco Pereira, Dayana Azeredo Conceição</i> | |
| A NUCLEAR FUEL LIFE CYCLE FOR AN ANGRA 2 REFUELING | 1408 |
| <i>Paulo Jorge Figueiredo, Paulo Fernando Ferreira Frutuoso E Melo, Antonio Carlos Marques Alvim, Antonio Sergio De Martin Alves</i> | |
| MANAGEMENT PROPOSAL FOR MONITORING AN ELECTROMECHANICAL ASSEMBLY OF A PWR NUCLEAR TYPE | 1412 |
| <i>Eduardo De Souza Tavares, José Silvio Pessoa Filho, Tiago Turcarelli, André Luiz Candido Da Silva</i> | |
| BRIEF HISTORICAL REVIEW OF THE RTG, ITS APPLICATION TO SPACE EXPLORATION AND THE SHORTAGE OF FUEL MATERIAL IN THE LAST 20 YEARS..... | 1416 |
| <i>Lamartine Nogueira Frutuoso Guimarães, Ana Paula Rodrigues Dos Santos, Charles Henrique Dos Montes Fernandes E Fernandes</i> | |
| QUANTUM-INSPIRED ESTIMATION OF DISTRIBUTION ALGORITHM TO SOLVE THE NUCLEAR REACTOR RELOAD PROBLEM(NRRP)..... | 1420 |
| <i>Luiz Gustavo Hoyer Da Silva Costa, Roberto Schirru</i> | |

ENFIR > R07 - NUCLEAR SECURITY

| | |
|---|------|
| CASE BEYOND BOCAINA | 1425 |
| <i>Jailton Ferreira</i> | |
| INITIAL STUDY OF RESIDUAL RADIOACTIVITY IN TOPAZ DURING NEUTRON COLOR TREATMENT AT TRIGA IPR-R1 REACTOR | 1429 |
| <i>Natalia Mendes, Daniel De Almeida Magalhães Campolina, Fernando Soares Lameiras, Ivan Gonçalves Mendes, Maria Ângela De Barros Correia Menezes, Aimoré Dutra Neto, Luiz Claudio Meira Belo</i> | |
| ON THE EXPLOITATION OF HUMAN AND TECHNOLOGICAL VULNERABILITIES IN THE NUCLEAR SECTOR: A CASE STUDY AT A RESEARCH INSTITUTE..... | 1435 |
| <i>Guilherme Dutra Gonzaga Jaime, Eduardo Andrade De Jesus, Claudio Marcio Do Nascimento Abreu Pereira</i> | |
| FUSION AND NON-PROLIFERATION. A STUDY FOR A SAFEGUARDS IMPLEMENTATION EXPERIMENT | 1439 |
| <i>Massimo Zucchetti - Usa</i> | |
| CYBERSECURITY FOR NUCLEAR PLANTS AGAINST VIRUS SIMILAR AS STUXNET..... | 1442 |
| <i>Julia Fernanda De Lucas Rocha, Pamela Grazielle Pimentel Rodrigues</i> | |

ENIN > I01 - ENERGY GENERATION SECTOR, ADVANCES IN NEW NUCLEAR POWER PLANTS DEPLOYMENT AND TECHNOLOGY INNOVATIONS & TRENDS

| | |
|---|------|
| NUCLEAR POWER PLANTS: RECENT ADVANCES TOWARDS TO SAFETY..... | 1444 |
| <i>Lorenzo De Micheli, Claudia Giovedi Motta, Almir De Oliveira Neto, Alfredo Abe</i> | |

| | |
|---|------|
| AMANÁ - CLEAN ENERGY COMPLEX: NUCLEAR INNOVATION WITH THE USE OF SMRS FOR SYNTHETIC FUEL PRODUCTION USING BRACKISH WATER AND ATMOSPHERIC CO ₂ | 1448 |
| <i>Larissa Pinheiro, Iago De Oliveira Gomes, Isabella Rezende Magalhães, Suelen Cristina Silva Oliveira, João Victor Gioseffi Maciel Alegrio Lopes</i> | |
| COMPARISON OF ION EXCHANGE METHODS FOR LITHIUM-7 ISOTOPIC ENRICHMENT FOR APPLICATION IN PWR REACTORS. | 1452 |
| <i>Juliana Ikebe Otomo, Juliana Ikebe Otomo, Daniela Da Costa Gonçalves Santos, João Ferreira Coutinho, Vanderlei Sérgio Bergamaschi, José Oscar William Vega Bustillos</i> | |
| ELECTROCHEMICAL PROPERTIES OF ACTIVATED CARBON SUPERCAPACITORS PREPARED WITH ELECTROLYTES BASED ON SOLID AND LIQUID EUTECTIC SOLVENTS..... | 1455 |
| <i>Bianca Duarte Da Costa, Pedro Vitor Duarte Da Cruz, Rubens Nunes De Faria Junior</i> | |
| A LITTLE ABOUT NUCLEAR FUSION | 1459 |
| <i>Amir Zacarias Mesquita, Leonardo Yago Zwetsch Varella, Walewska Golveia Silva, Welen Nunes Lima, Thessa Cristina Alonso</i> | |
| SEPARATION TECHNIQUES OF LITHIUM ISOTOPES BY ION EXCHANGE METHOD AND MONITORING BY ICP-MS..... | 1463 |
| <i>José Oscar Vega Bustillos, Juliana Ikebe Otomo, Paulo Henrique Barreto Leão, Beatriz Soto Roveló, Daniela Da Costa Gonçalves Santos, João Coutinho Ferreira, Vanderlei Bergamaschi, Vinicius Alvarenga</i> | |
| COMPARATIVE ANALYSIS BETWEEN PROVIDED VALUES AND MEASURED VALUES ON PHOTOVOLTAIC MODULES | 1466 |
| <i>Vinicius De Melo Puglia, Thadeu Das Neves Conti</i> | |
| THE POSSIBLE CONTRIBUTIONS OF GRAPHENE TO THE NUCLEAR INDUSTRY | 1470 |
| <i>Marcus Vinicius Vieira, Dr. Fernando M. Araujo-Moreira</i> | |
| PURIFICATION OF LITHIUM IONS FROM LITHIUM HYDROXIDE SOLUTION BY ION EXCHANGE METHOD USING CATIONIC RESIN AG 50W-X8 E HPR 1200..... | 1476 |
| <i>João Coutinho Ferreira, Daniela Da Costa Gonçalves Santos, Juliana Ikebe Otomo, Vanderlei Sérgio Bergamaschi, José Oscar Vega Bustillos</i> | |
| COMPARATIVE ANALYSIS BETWEEN PROVIDED VALUES AND MEASURED VALUES ON PHOTOVOLTAIC MODULES | 1479 |
| <i>Vinicius De Melo Puglia, Thadeu Das Neves Conti</i> | |
| SHOULD BRAZIL INVEST IN SMALL MODULAR REACTOR? | 1483 |
| <i>Valéria Emiliana Alcântara E Alves, Daniel José Leibing Sarney, Amir Zacarias Mesquita, Ana Rosa Baliza, Vitor Fernandes De Almeida</i> | |
| <u>ENIN > I02 - PLANT OPERATION STRATEGIES, COSTS AND CAPACITY FACTORS IN THE NUCLEAR GENERATION OF LARGE UTILITIES</u> | |
| EVALUATION OF THE INTEGRITY OF MECHANICAL COMPONENTS BY SELECTIVE LEACHING IN METALS..... | 1487 |
| <i>Bruno Vieira Lopes, Maritza Rodriguez Gual, Rennan De Souza Da Silva</i> | |
| TECHNIQUES IN DETECT SELECTIVE LEACHING IN METAL COMPONENTS..... | 1489 |
| <i>Maritza Rodriguez Gual, Bruno Vieira Lopes, Rennan De Souza Da Silva</i> | |

ENIN > I04 - PUBLIC AWARENESS, SUSTAINABILITY AND SOCIAL IMPACT OF NUCLEAR TECHNOLOGIES

| | |
|---|------|
| ENVIRONMENTAL PERFORMANCE ASSESSMENT IN NUCLEAR RESEARCH FACILITIES: A REVIEW | 1491 |
| <i>Daniel Henrique Honório, Erica Kushihara Akim, Antonio Carlos Farrapo Junior, Diogo Aparecido Lopes Silva</i> | |
| SCIENTIFIC OUTREACH AND THE MUSEUM OF NUCLEAR KNOWLEDGE | 1495 |
| <i>Júlia Wagner Pereira, Letícia Antunes Ferreira Alves, Robson Bruno Fernandes Da Silva Amador, Gabriel Mello Dos Santos Abreu Mol, Hilary Da Silva Lima, Raphael Rodrigo Pereira, Ana Paula Legey De Siqueira, André Cotelli Do Espírito Santo, Sara Isnardo Fernandes, Eugenio Rangel Marins</i> | |
| A PROPOSAL OF CRITERIA TO IMPROVE THE QUALITY OF SCIENTIFIC DIVULGATION IN THE NUCLEAR AREA..... | 1499 |
| <i>Cássio Feitosa Trajano Da Silva, Cláudio Henrique Dos Santos Grecco, Cláudio Márcio Do Nascimento Abreu Pereira</i> | |
| NUCLEAR ENERGY AS A CLEAN ALTERNATIVE: ANALYZING CITIZENS' PERCEPTION ON 'X' THROUGH NLP | 1503 |
| <i>Gabriella Amorim, Adriana Lourenço D'Avila</i> | |
| RESEARCH COLLABORATION DYNAMICS AT THE NATIONAL NUCLEAR ENERGY COMMISSION (CNEN): PATHWAYS TO ENHANCE ECONOMIC AND SOCIAL IMPACT | 1507 |
| <i>Alessandro Augusto Jordão, Valter Arthur</i> | |
| EXPLORING THE SYNERGY BETWEEN NUCLEAR TECHNOLOGY AND GAMIFICATION: AN APPROACH TO NUCLEAR EDUCATION..... | 1511 |
| <i>Rafael Dos Santos, Inaya Lima</i> | |
| AN ANALYSIS OF BRAZIL'S SITUATION IN THE GLOBAL SURVEY ON PUBLIC SUPPORT FOR NUCLEAR ENERGY | 1514 |
| <i>Fernando Razuck</i> | |
| STUDY OF GAMMA RADIATION IN THE DEGRADATION OF HIGH-DENSITY POLYETHYLENE (HDPE) PLASTIC BAGS. | 1516 |
| <i>Weslei Marcos Da Silva Teixeira, Aneuri Souza De Amorim, Luciana Carvalheira</i> | |
| UTILIZATION OF MULTIMEDIA RESOURCES IN NUCLEAR SCIENCES COMMUNICATION WITHIN THE BRAZILIAN SCHOOL ENVIRONMENT | 1520 |
| <i>Vitor Fernandes De Almeida, Amir Zacarias Mesquita, Alexandre Soares Leal, Fernando Soares Santos, Rodrigo Vieira Pereira, Valéria Emiliana Alcântara E Alves, Adriano De Almeida Massaud Felipe, Ana Rosa Baliza Maia, Leonardo Yago Zwetsch Varela, Walewska Gouveia Silva</i> | |

ENIN > I05 - NUCLEAR SAFETY & SECURITY, NON-PROLIFERATION, SAFEGUARDS AND NUCLEAR FORENSICS, RADIOPROTECTION AND SAFETY CULTURE

| | |
|---|------|
| A HISTORICAL OVERVIEW: RADIOLOGICAL AND NUCLEAR PREPAREDNESS NEEDS - SAFE AND ADEQUATE COUNTRY RESPONSE | 1524 |
| <i>Madison Coelho De Almeida, Raul Dos Santos, João Régis Dos Santos, Delvonei Alves De Andrade</i> | |

| | |
|---|------|
| SOFT SYSTEMS METHODOLOGY (SSM) AS AN APPROACH TO THE SAFETY MANAGEMENT OF NUCLEAR FACILITIES: A CASE REPORT | 1528 |
| <i>Sabine Neusatz Guilhen, Iara Maria Carneiro De Camargo, Júlio Takehiro Marumo, Teresinha De Moraes Da Silva, Gerson Antonio Rubin, Antonio Souza Vieira Neto</i> | |
| SAFETY AND SECURITY ISSUES DURING THE RETURN OF CONTAMINATED SCRAP METAL TO BRAZIL | 1532 |
| <i>Madison Coelho De Almeida, Patrick Rodrigues Perrotta, Raul Dos Santos, Delvonei Alves De Andrade, Maria Angelica Vergara Wasserman</i> | |
| METHODOLOGY TO ESTIMATE EFFECTIVE DOSES FROM 137CS GAUSSIAN PLUME USING MCNP6 | 1536 |
| <i>Juliana Sanchez, Juliana De Sá Sanchez, Andressa Dos Santos Nicolau, César Marques Salgado, Claudio Marcio N. A. Pereira</i> | |
| BASIC PRINCIPLES OF SAFEGUARDS BY DESIGN | 1540 |
| <i>Peter Rance, Jeremy Whitlock, Traci Newton, Michael Barletta, Neivy Lopez Pino</i> | |
| DEVELOPMENT OF AN EPOXY/CARBON FIBER COMPOSITE FOR RADIATION ATTENUATION WITH A DISPERSION OF MICRO PARTICLES OF BISMUTH TRIOXIDE (BI ₂ O ₃) | 1544 |
| <i>Pedro Munhoz, Fernando Codeko Nascimento, Orlando Rodrigues Junior, Maria Da Penha Albuquerque Potiens, Wilson Apararecido Parejo Calvo</i> | |
| EVALUATION OF MULTIDOSIMETRY RESULTS DURING ANGRA 1 REFUELING OUTAGE..... | 1548 |
| <i>Fernando Mendonça Soares Filho</i> | |
| THREE DECADES OF ABACC: A REGIONAL SAFEGUARDS SYSTEM IN THE FRAMEWORK OF INTERNATIONAL SAFEGUARDS AND NUCLEAR COOPERATION FOR PEACEFUL PURPOSES | 1552 |
| <i>Fábio Cordeiro Dias, Agustín Arbor González, Ana Maria Vaz De Araujo, Leonardo Arial Pardo, Marco Antônio Saraiva Marzo, Maria Cristina Lourenço, Sonia Fernández Moreno</i> | |
| CLASSIFICATION ASSESSMENT OF RADIOLOGICAL CONTROLLED AREAS SUBDIVISION ZONES..... | 1556 |
| <i>Helio Massaharu Murata, Douglas Brandão Baroni, Anelise Ruzzarin, Fagner Chagas Rother, Sad Sandrini Borsoi</i> | |
| ANALYTICAL APPROACH TO PUBLIC RADIOLOGICAL PROTECTION IN CONTROLLED AREAS..... | 1560 |
| <i>Lucinda Fernandes Da Silva, Eara De Souza Luz Oliveira, João Carlos Silva, Gustavo Claassen, Francisco José De Oliveira Ferreira</i> | |
| STRATEGIES FOR AWARENESS AND PROMOTION OF NUCLEAR SECURITY AND SAFETY FOR PROFESSIONALS THROUGH SOCIAL NETWORKS: A CASE STUDY IN BRAZIL | 1563 |
| <i>Camila Moreira Araujo, Francisco Cesar Augusto Da Silva, Davi Ferreira De Oliveira</i> | |
| NUCLEAR NON-PROLIFERATION: AN ANALYSIS OF THE INTERNATIONAL SYSTEM IN VIEW OF NUCLEAR WEAPONS..... | 1567 |
| <i>Amanda Rodrigues De Carvalho, Elaine Aparecida Rodrigues, Julia Cristina Garcia, Delvonei Alves De Andrade, Jose Oscar William Vega Bustillos</i> | |
| NUCLEAR SECURITY AND CYBERSECURITY: TWO FIELDS WITH GENDER GAP | 1571 |
| <i>Tania Mara Muguet Haisman</i> | |

| | |
|---|------|
| INNOVATIVE DEPOSITION OF PLATINUM-GRAPHENE ON ALUMINA FOR PASSIVE AUTOCATALYTIC RECOMBINERS TO IMPROVE NUCLEAR SAFETY..... | 1574 |
| <i>Lorenzo De Micheli, Claudia Giovedi Motta, Rodrigo Fernando Brambilla Souza, Gabriel De Almeida Silvestrin, Almir De Oliveira Neto</i> | |

ENIN > I06 - HUMAN RESOURCES AND PROFESSIONAL DEVELOPMENT

| | |
|---|------|
| O DISCURSO DOS PROFISSIONAIS DE ENG. NUCLEAR SOBRE A INFLUÊNCIA DO MESTRADO E OU DOUTORADO NA CONSTRUÇÃO DE SUAS IDENTIDADES ACADÊMICAS E PROFISSIONAIS | 1578 |
| <i>Rafael Santos, Inaya Lima</i> | |

| | |
|---|------|
| WORKING WITH CANVAS IN A PUBLIC INSTITUTE OF RESEARCH AND DEVELOPMENT IN THE NUCLEAR SECTOR: A TEAM EFFORT TO ACHIEVE ITS GOALS | 1581 |
| <i>Adriana Lourenço D'Avila, Ana Gabriella Amorim Abreu Pereira, Guilherme Dutra Gonzaga Jaime</i> | |

| | |
|---|------|
| EXPERIENCE OF THE GALEÃO AIR FORCE HOSPITAL (HFAG) IN HEALTH TRAINING AND QUALIFICATION IN APPROACHING VICTIMS OF RADIOLOGICAL AND NUCLEAR AGENTS | 1585 |
| <i>Moisés Bonifácio Das Neves, Newton Hirata, Jayme Alberto Mendes, Humberto Silva Fonseca</i> | |

| | |
|--|------|
| ENTREPRENEURIAL INNOVATION IN NUCLEAR SCIENCE: ACCELERATING RESEARCH THROUGH THE LCAA SUPERCOMPUTING INITIATIVE..... | 1587 |
| <i>Guilherme Dutra Gonzaga Jaime, Adriana Lourenço D'Avila</i> | |

| | |
|--|------|
| STUDY OF ORGANIZATIONAL MANAGEMENT THROUGH MEASURES OF IMPLICIT AND EXPLICIT ASSOCIATIONS TO DEMONSTRATE THE NEED AND POSSIBILITIES FOR INNOVATION IN PUBLIC AND PRIVATE MANAGEMENT..... | 1591 |
| <i>Maria P S Martins, Gaiânê Sabundjian</i> | |

X JR POSTER > J E01 - DOSIMETRY AND NUCLEAR INSTRUMENTATION

| | |
|--|------|
| CALIBRAÇÃO DE DOSÍMETROS DE POLIMETILMETACRILATO PARA DOSIMETRIA EM IRRADIADOR GAMA INDUSTRIAL UTILIZANDO FRICKE | 1595 |
| <i>Leonardo Gualberto Silva Macedo, Daniel Silva Calheiro, Lorena Soares Fonseca, Amir Zacarias Mesquita, Thêssa Cristina Alonso</i> | |

| | |
|--|------|
| CALIBRAÇÃO DE SISTEMA DOSIMÉTRICO TERMOLUMINESCENTE PARA AVALIAÇÃO DA DISTRIBUIÇÃO DE DOSES EM HEMOCOMPONENTES..... | 1599 |
| <i>Lorena Soares Fonseca, Daniel Silva Calheiro, Leonardo Gualberto Silva Macedo, Amir Zacarias Mesquita, Thêssa Cristina Alonso, Peterson Lima Squair</i> | |

| | |
|--|------|
| EVALUATION OF THE BEAM PROPERTIES OF A LINEAR ACCELERATOR OPERATING AT 6 MEV ENERGY | 1603 |
| <i>Douglas Luz, Arthur De Souza Borges Zuchetti Alves, Uberlândia, Lúcio Pereira Neves, Ana Paula Perini,, William De Souza Santos</i> | |

| | |
|---|------|
| COMPUTATIONAL SIMULATION OF MULTILAYER SAMPLES FOR THICKNESS MEASUREMENT BY TRANSMITTANCE OF CHARACTERISTIC X-RAY | 1607 |
| <i>Lucas Da Costa De Souza, Elicardo Alves De Souza Gonçalves, Renato Pereira De Freitas, Andrew Lucas De Lima Santos</i> | |

| | |
|---|------|
| DETERMINAÇÃO DE CURVAS E EFICIÊNCIA PARA DETECTOR HPGE E VALOR MÉDIO DO COEFICIENTE DE ABSORÇÃO EM AMOSTRA EXTENSA..... | 1611 |
| <i>Julia Oliveira Arpiani, Guilherme Soares Zahn, Frederico Antonio Genezini, José Agostinho Gonçalves De Medeiros</i> | |
| PYTHON SOFTWARE FOR DATA PROCESSING AND QUALITY CONTROL IN HPGE DETECTORS..... | 1615 |
| <i>Gustavo Pires Bertaco, Paulo Sergio Cardoso Da Silva, Guilherme Soares Zahn, Bruno Fonseca Da Silva, Renato Semmler</i> | |
| ISOTOPIC ENRICHMENT OF LITHIUM-6 FOR THERMOLUMINESCENT DOSIMETER APPLICATION..... | 1619 |
| <i>Daniela Gonçalves Santos, Juliana Ikebe Otomo, João Ferreira Coutinho, Vanderlei Sérgio Bergamaschi, José Oscar William Vega Bustillos</i> | |
| POTENTIAL APPLICATION OF CDS PHOTORESISTOR WITH OPEN-SOURCE SOFTWARE FOR X-RAY DETECTION..... | 1621 |
| <i>Vanessa Martiniano Guimarães, Pedro Gabriel Fernandes Mundim Paiva, Josilene Cerqueira Santos, Claudio Domingues De Almeida</i> | |
| RADIOCHROMIC FILM EBT3 CALIBRATION FOR LINEAR ACCELERATOR..... | 1625 |
| <i>Marcela De Moraes Freitas, Caio Fernando Teixeira Portela, Guilherme Cavalcante De Albuquerque Souza, Fernanda Stephanie Dos Santos, Arnaldo Prata Mourão, Adriana De Souza Medeiros Batista</i> | |
| CAMPO DE NÊUTRONS EXTERNOS AO FLUXO TÉRMICO PADRÃO 1 DO LNMRI/LN CARACTERIZADO PARA TESTES DE EQUIPAMENTOS NA GRANDEZA EQUIVALENTE DE DOSE AMBIENTE H*(10)..... | 1629 |
| <i>Hasma Miranda Alves Farage, Simone Da Silva Fernandes, Antônio Carlos Ferreira, Angela Souza Gonçalves, Karla Cristina De Souza Patrão, Walsan Wagner Pereira</i> | |
| A COMPARISON OF PLANNED DOSE IN TBI VMAT TREATMENT TO MEASUREMENT USING PORTAL DOSIMETRY®, IBA MATRIX®, AND TLD-100®..... | 1632 |
| <i>Juan Valani Marques De Sousa, Lucas Furtado Braga Do Nascimento, Inaya Corrêa Barbosa Lima, Diego Silva Olbi, André Luiz Espindola Fidelis, Maria Luiza Miranda, Luiz Antonio Ribeiro Da Rosa, Simone Coutinho Cardoso</i> | |
| COMBINING 3D PRINTING WITH OSL DOSEMETERS FOR EXTREMITY MONITORING..... | 1635 |
| <i>Gabriel Henrique Rocha Barreto De França, Helen Jamil Khoury, Viviane Khoury Asfora, Vinicius Saito Monteiro De Barros</i> | |
| ESTUDO DA TEORIA DA CAVIDADE POR MEIO DO MÉTODO DE MONTE CARLO UTILIZANDO O CÓDIGO GEANT4..... | 1639 |
| <i>Maria Clara Vicente De Souza Leite Coelho, Denison De Souza Santos</i> | |
| CRESCIMENTO DE CRISTAIS CINTILADORES INORGÂNICOS PELA TÉCNICA DE BRIDGMAN PARA USO COMO DETECTORES DE RADIAÇÃO..... | 1643 |
| <i>Nayla Franciely Da Silva, João Paulo Da Silva Alves, Maria Da Conceição Costa Pereira</i> | |
| VALIDATION OF A PHOTON BEAM FROM THE ELECTRON BEAM PRODUCED BY THE INTERACTION OF PHOTONS WITH THE MEDIUM USING THE MONTE CARLO METHOD..... | 1647 |
| <i>Tude Braga Andrade, Ruy Da Silva Rayol Neto, Lucas Furtado Braga Do Nascimento, Daniele Da Silva Machado, Luiz Antonio Ribeiro Da Rosa, Simone Coutinho Cardoso</i> | |

ON THE HALF-VALUE LAYER DETERMINATION OF X REFERENCE RADIATION FIELDS
ACCORDING TO ISO 4037-1:2019 METHODOLOGY 1651
William Valadas, Claudete Roberta Evangelista, Teógenes Augusto Da Silva

X JR POSTER > J E02 - APPLICATIONS TO THE ENVIRONMENT

METAIS EM SOLO, UMA AVALIAÇÃO DA BIODISPONIBILIDADE EM PARQUE
RECREATIVO E SUAS INFLUÊNCIAS NA SAÚDE DE INDIVÍDUOS EXPOSTOS 1655
*Gabriella Braz, Luana Caroline Domingos Da Silva, Janice Pereira De Sá Souza, Waldecy
Ananias Da Silva, Vivianne Lúcia Bormann De Souza*

RADON CONCENTRATION IN DIFFERENT BUILDINGS LEVELS 1659
*Isabela Nicomedes Silva Ferreira, Julia Batista Severo, Laura Cardoso Takahashi, Carolina
Santos Lamounier, Rose Mary Marques Pinheiro, Ricardo Gomes Passos*

METHODOLOGY FOR STUDYING THE ROUTES OF HUMAN EXPOSURE TO NATURAL
RADIOACTIVITY IN DIFFERENT ENVIRONMENTAL MATRICES 1663
*Júlia Severo, Laura Cardoso Takahashi, Isabela Nicomedes Silva Ferreira, Natalia Fonseca
Taveira, Ricardo Gomes Passos, Stela Dalva Santos Cota*

DETERMINAÇÃO DE 226-RA, 228-RA, 228-TH E 210-PB EM ÁGUAS MINERAIS 1667
Nicolly Santana De Oliveira, Paulo Sérgio Cardoso Da Silva

AVALIAÇÃO DA CONCENTRAÇÃO DE METAIS NO SOLO DA ÁREA DE INFLUÊNCIA DO
RESERVATÓRIO BIRITIBA MIRIM, SÃO PAULO 1671
Thiago Costa Silva, Sandra Regina Damatto, Pedro Do Nascimento Gonçalves

EXPERIMENTAL INVESTIGATION OF GAMMA RADIATION USE FOR PRE-TREATMENT
OF SUGARCANE BAGASSE (SACCHARUM SPP.) 1675
*Isabel Mourão, Leonardo Yago Zwetsch Varella, Amir Zacarias Mesquita, Thêssa Cristina
Alonso, Daniel Bastos De Rezende, Érika Cristina Cren*

CARACTERIZAÇÃO QUÍMICA INORGÂNICA E RADIOLÓGICA DE OLEAGINOSAS
CONSUMIDAS NA CIDADE DE SÃO PAULO 1679
Barbara Favaro Nascimento, Sandra Regina Damatto, Lucio Leonardo, Thiago Costa Silva

METODOLOGIA DE SEPARAÇÃO E IDENTIFICAÇÃO DE MICROPLÁSTICOS EM ÁGUAS
DOS CANAIS DE SANTOS E ANÁLISE POR ATIVAÇÃO NEUTRÔNICA PARA
IDENTIFICAÇÃO DE CONTAMINANTES 1683
*Vitória Ravaneli, Jacinete Lima Dos Santos, Duclerc Fernandes Parra, Paulo Sérgio Cardoso
Da Silva*

IONS AND METALS IN POLYSTYRENE SAMPLES BY X-RAY FLUORESCENCE
TECHNIQUE 1687
*Thales Zanin Dos Santos De Oliveira, Cibele Bugno Zamboni, Bárbara Cardozo, João
Felizardo, Roberto Meigikos*

STUDY OF MINERAL DISSOLUTION IN A URANIUM MINING WASTE PILE 1691
*Ruan Carlos Rocha Alves, Carlos Alberto De Carvalho Filho, Thiago Fernando Avila
Navarro, Nilva Pereira Lopes*

GEOCHEMICAL EVALUATION OF RADIONUCLIDES IN SOIL NEAR A DISMANTLED TH
AND U PILOT PLANT IN SÃO PAULO, BRAZIL 1695
*Kaique Oliveira, Marcelo Redigolo, Regina Ticcianelli, Marycel Cotrim, Paulo De Cardoso,
Iara Camargo*

| | |
|--|------|
| PRELIMINARY STUDY ON THE PREPARATION OF FISH SAMPLES WITH AS SPIKING AIMING AT APPLYING NUCLEAR TECHNIQUES FOR QUALITATIVE AND QUANTITATIVE ANALYSIS | 1699 |
| <i>João Paulo Vasconcelos De Almeida, Francisco José De Oliveira Ferreira, Rogério Chaffin Nunes, Luciana Carvalheira</i> | |

X JR POSTER > J E03 - APPLICATIONS IN HEALTH AND INDUSTRY

| | |
|---|------|
| COMPARISON OF TECHNIQUES FOR PROTEIN EXTRACTION FROM FUNGI FOUND ON A RADIOPHARMACEUTICAL MANUFACTURING PLANT | 1701 |
| <i>Laura Cidrão Cavalcante, Luan Junior Dos Silva, Vinicius Lima Torres De Oliveira, Carlos Farias Felgueiras, Margareth Mie Nakamura Matsuda</i> | |

| | |
|--|------|
| TISSUE REACTIONS (DETERMINISTIC EFFECTS) IN DIAGNOSTIC AND INTERVENTIONAL RADIOLOGY: AN INTEGRATIVE REVIEW OF RECENT LITERATURE | 1705 |
| <i>Laisa Neves, Ana Cristina Murta Dovalles, Lucía Viviana Canevaro</i> | |

| | |
|---|------|
| PREVALENCE OF CHONDROCALCINOSIS ON KNEE RADIOGRAPHS AND ASSOCIATIONS WITH SOCIODEMOGRAPHIC FACTORS: THE BRAZILIAN LONGITUDINAL STUDY OF ADULT HEALTH MUSCULOSKELETAL (ELSA-BRASIL MSK) | 1709 |
| <i>V. Cunha, L. Nogueira, R. Pinto, L. Costa-Silva, A. Oliveira, A. Santos, S. Barreto, R. Telles</i> | |

| | |
|--|------|
| AVALIAÇÃO DO TEOR DE PUREZA DE TI METÁLICO PARA APLICAÇÕES RADIOFARMACÊUTICAS | 1713 |
| <i>Gustavo Seiji Pó, Lilian Ninoska Muriel Braguin, Iberê Ribeiro De Souza Junior, Paulo Sérgio Cardoso Da Silva</i> | |

| | |
|---|------|
| CARACTERIZAÇÃO DO MATERIAL DE APLICADOR PARA TRATAMENTO DE LESÕES SUPERFICIAIS EM BRAQUITERAPIA | 1717 |
| <i>Marcela De Moraes Freitas, Juan Carlos Chrisostomo Lamônica, Mariana De Oliveira Reis, Adriana De Souza Medeiro Batista, Luciana Batista Nogueira, Jony Marques Geraldo, Clara Bicalho Nascimento, Arnaldo Mafra</i> | |

| | |
|---|------|
| APLICAÇÃO DA MICROTOMOGRÁFIA COMPUTADORIZADA NAS CIÊNCIAS ODONTOLÓGICAS | 1721 |
| <i>Gabriel José Costa Teles, Alessandra Silveira Machado, Ricardo Tadeu Lopes</i> | |

| | |
|---|------|
| ORGAN UPTAKE IN BIODISTRIBUTION STUDIES OF [18F]DPA-714 RADIOTRACER | 1725 |
| <i>Christiana Da Silva Leite, Juliana De Oliveira Silva, Brígida Gomes De Almeida Schirmer, João Vitor Reis Marques, Ianara Pereira Silva, Douglas Boniek Navarro, Juliana Batista Da Silva</i> | |

| | |
|--|------|
| BORON DETERMINATION IN POLYETHYLENE BY EDXRF | 1728 |
| <i>Mariane De Oliveira Scapin, Marcos Antonio Scapin, Marycel Elenena Barbosa Cotrim</i> | |

| | |
|---|------|
| ZOOMORPHIC MOUSE PHANTOM FOR APPLICATIONS IN SMALL ANIMALS PET SCANNER: INITIAL TESTS | 1732 |
| <i>Anna Clara Moreira Da Silva, Andrea Vidal Ferreira, Ester Maria Rodrigues De Andrade, Rodrigo Modesto Gadelha Gontijo, Bruno Melo Mendes</i> | |

| | |
|---|------|
| A 3D PRINTING BASED ANTHROPOMORPHIC EYE PHANTOM DEVELOPMENT | 1736 |
| <i>André Luiz Espindola Fidelis, Maria Luiza Miranda Maciel, Dirceu Dias Pereira, Luiz Antonio Ribeiro Da Rosa, Rio De Janeiro, Simone Coutinho Cardoso</i> | |

| | |
|---|------|
| 3D MODELING OF COMPLEX GEOMETRIES WITH BLENDER FOR MONTE CARLO SIMULATIONS | 1740 |
| <i>Larissa Gabriela Oliveira De Santana, André Luiz Espindola Fidelis, Lucas Furtado Braga Do Nascimento, Felipe Marques Lucas De Souza, Luiz Antonio Ribeiro Da Rosa, Simone Coutinho Cardoso</i> | |
| ESTUDOS PATOLÓGICOS EM ÚTEROS POR MICROTOMOGRÁFIA DE RAIOS X | 1744 |
| <i>Larissa Moura Gonçalves, Olga Maria De Oliveira Araujo, Alessandra Silveira Machado, Pedro Castro, Ricardo Tadeu Lopes</i> | |
| SÍNTESE DE NANOPARTÍCULAS MAGNÉTICAS E ANÁLISE ESTRUTURAL ATRAVÉS DE ESPECTROSCOPIA NUCLEAR | 1747 |
| <i>Hugo Araujo Dos Santos, Tatiane Da Silva Nascimento Sales, Adilson Guerra, Arthur Wilson Carbonari, Luciano Fabrício Dias Pereira, Bruno Santos Correa, Rajendra Narain Saxena</i> | |
| USING TOPAS MC TO ASSESS HOW BONE/WATER HETEROGENEITY INFLUENCES MONOENERGETIC PROTON BEAMS | 1751 |
| <i>Tomás Ferreira Dias Costa De Vasconcelos, Ruy Da Silva Rayol Neto, Lucas Furtado Braga Do Nascimento, Tude Braga Andrade, Luiz Antonio Ribeiro Da Rosa, Simone Coutinho Cardoso</i> | |
| IMAGE QUALITY EVALUATION OF A SMALL ANIMAL PET SCANNER USING GA-68 ISOTOPE..... | 1754 |
| <i>Victoria Moreira Garcia, Anna Clara Moreira Da Silva, Rodrigo Modesto Gadelha Gontijo, Andrea Vidal Ferreira</i> | |
| EFFECTIVENESS TEST OF DISINFECTANTS TO ELIMINATE BIOFILM IN RADIOPHARMACY..... | 1758 |
| <i>Luan Junior Dos Santos, Margareth Mie Nakamura Matsuda, Laura Cidrão Cavalcante, Carlos Farias Felgueiras, Vinicius Lima Torres De Oliveira</i> | |
| SYNTHESIS OF THE METAVANADATE CAV ₂ O ₆ BY THE SOL-GEL METHOD AND THE CHARACTERIZATION BY X-RAY DIFFRACTION AND TIME-DIFFERENTIAL PERTURBED GAMMA-GAMMA ANGULAR CORRELATION TECHNIQUES..... | 1762 |
| <i>Renata Maziviero, Luciano Fabrício Dias Pereira, Anastasia Burimova, Arnaldo Alves Miranda Filho, Anderson Souza Pereira, Rajendra Narain Saxena, Artur Wilson Carbonari</i> | |
| ANÁLISE DA INFLUÊNCIA DA RADIAÇÃO COM FEIXE DE ELÉTRONS NA RESISTÊNCIA AO IMPACTO DA BLENDA DE PVB COM POLIAMIDA 6 E PVB IRRADIADO COM POLIAMIDA 6 | 1766 |
| <i>Iago Vinicio Silva, Vanessa Morreira Soares, Julio Harada, Leonardo Gondim De Andrade E Silva</i> | |
| HPLC DAD METHOD DEVELOPMENT USING MULTIVARIATE APPROACHES FOR QUALITY CONTROL OF FLUORESTRADIOL F18..... | 1770 |
| <i>Ana Góes Morais, Cassiano Lino Dos Santos Costa, Marina Bicalho Silveira</i> | |
| HIGH-THROUGHPUT PRODUCTION OF MALIGNANT MELANOMA SPHEROIDS (SK-MEL-37) USING SIMPLE PLATE TREATMENT AND AUTOMATED FLUORESCENCE MICROSCOPY ANALYSIS | 1774 |
| <i>Suleyna Ribeiro Prudente, Esther Carolina Dos Santos, Giovana Dias Da Silva, Mayelle Maria Paz Lima, Patricia Lima Falcão, Thais Monteiro Da Silva, Daniel Perez Vieira</i> | |
| IMPROVEMENT OF TECHNETIUM-LABELED PHYTATE RADIOCHEMICAL QUALITY CONTROL | 1777 |
| <i>Vicenzo San Felipe Couri, Margareth Mie Nakamura Matsuda</i> | |

| | |
|--|------|
| AVALIAÇÃO DA RADIOATIVIDADE NATURAL EM UMA RESIDÊNCIA DE BELO HORIZONTE | 1781 |
| <i>Sueli Coellho, Talita De Oliveira Santos, Laura Cardoso Takahashi, Ricardo Gomes Passos</i> | |
| EFEITO DE DIFERENTES FONTES DE IRRADIAÇÃO NA REDUÇÃO DO ÓXIDO DE GRAFENO E AUMENTO DE ESCALA | 1785 |
| <i>Antony Alves De Oliveira, Miguel Duarte, Solange K. Sakata</i> | |
| THE HISTORICAL BACKGROUND OF QUALITY MANAGEMENT AT LIM/CDTN | 1789 |
| <i>Alexandre Vilaça Silva, Rodrigo Modesto Gadelha Gontijo, Andréa Vidal Ferreira</i> | |

X JR POSTER > J E04 - APPLICATIONS IN AGRICULTURE AND FOOD

| | |
|---|------|
| DETERMINING EXPERIMENTAL CONDITIONS FOR SOYBEAN BY NEUTRON ACTIVATION ANALYSIS | 1793 |
| <i>Julia Ponchio Muraro, Iberê Souza Ribeiro Junior, Tatiane Da Silva Nascimento Sales</i> | |
| ANÁLISE MULTIELEMENTAR DE SUPLEMENTOS ALIMENTARES UTILIZANDO RAIOS-X | 1797 |
| <i>Thales Zanin Dos Santos De Oliveira, Cibele Bugno Zamboni</i> | |
| EFFECTS OF IONIZING RADIATION ON THE ANIMAL SUPPLEMENT AMINOMIX | 1801 |
| <i>Mariana De Albuquerque Nacaratti, Aline Lopes De Souza, Thayná Felizardo Dos Santos, Guilherme Henrique Domingos De Franco, Maria José Neves</i> | |
| BRAZILIAN AND INTERNATIONAL LEGISLATION RELATED TO IONIZING IRRADIATION PRACTICES IN FOOD | 1804 |
| <i>Bianca Senário Félix, Amir Zacarias Mesquita, Thêssa Cristina Alonso, Mariana Alonso Natividade, Renata Cordeiro Lopes</i> | |

X JR POSTER > J E05 - RADIOACTIVE WASTE

| | |
|--|------|
| APPLICABILITY OF THE STANDARD ABNT ISO 9001 IN CENTENA | 1807 |
| <i>Ana Luíza Lima Crespo, Clédola Cassia Oliveirade Tello, Maria Judite Afonso Haucz</i> | |
| METHODS FOR DETERMINING THE CATION EXCHANGE CAPACITY (CEC) OF A SOIL MIXTURE WITH BENTONITE | 1811 |
| <i>Keli Dos Reis Oliveira, Clédola Cássia Oliveira De Tello</i> | |
| RADIOACTIVE WASTE SAMPLING BY LASER ABLATION SAMPLE TRANSFER (LAST) | 1815 |
| <i>Gabriel Peixoto Pinheiro Da Silva, Renata Facundes Da Costa, Gabriel Secassi Percinoto Pompei, Priscila Matos, Marcus Paulo Raele</i> | |
| SAMPLING OF RADIOACTIVE MATERIALS VIA LASER ABLATION | 1819 |
| <i>Gabriel Secassi Percinoto Pompei, Marcus Paulo Raele, Priscila Matos, Gabriel Peixoto Pinheiro Da Silva, Renata Da Costa</i> | |
| DETERMINAÇÃO DE SR-90 POR CINTILAÇÃO EM FASE LÍQUIDA | 1823 |
| <i>Nicole Aguiar Silva, Cátia Heloisa Rosignoli Saueia, Marcelo Bessa Nisti, Paulo Sergio Cardoso Da Silva</i> | |
| HPGE DETECTOR CALIBRATION AND DETERMINATION OF METALLIC IMPURITIES IN IRRADIATED ENRICHED WATER AT CDTN CYCLOTRON FACILITY | 1827 |
| <i>Helena Carvalho Souza, Raquel Gouvêa Dos Santos, Guilherme Santos Lima</i> | |

ANÁLISE DA AG-108M EM REJEITOS RADIOATIVOS..... 1831
Kauã Cardoso Da Silva, Tânia De Paula Brambilla Tchobnian, Paulo Sergio Cardoso Da Silva

DETERMINAÇÃO DE U E TH NOS ENSAIOS DE LIXIVIAÇÃO DE RESÍDUOS ORIUNDOS DO PROCESSAMENTO DA CASSITERITA 1835
Luana De Oliveira, Andrey Linhares Bezerra De Oliveira, Katia De Cassia Barbosa Alexandre, Arnaldo Alcover Neto, Rosilda Maria Gomes De Lima, Su Jian

CHARACTERIZATION OF CONCRETE AS A BARRIER FOR RADIOACTIVE WASTE DISPOSAL..... 1839
Jhenifer Ketelin Neves Souza, Clédola Cássia Oliveira De Tello

X JR POSTER > J I01 - ENERGY GENERATION SECTOR, ADVANCES IN NEW NUCLEAR POWER PLANTS DEPLOYMENT AND TECHNOLOGY INNOVATIONS & TRENDS

ANÁLISE DE COGERAÇÃO DE ELETRICIDADE, ÁGUA DESSALINIZADA E HIDROGÊNIO ROSA A PARTIR DE UM MICRO REATOR NUCLEAR DE 75 MWT 1843
Guilherme Gottems, Renato Machado Cotta, Emerson Barbosa Dos Anjos, Carolina Palma Naveira Cotta

X JR POSTER > J I04 - PUBLIC AWARENESS, SUSTAINABILITY AND SOCIAL IMPACT OF NUCLEAR TECHNOLOGIES

ALGORITMO PARA COORDENAÇÃO DE ENXAME DE DRONES NO SENSORIAMENTO DE UM TERRENO..... 1847
Francisco Nazário Pereira Júnior, Wallace Vallory Nunes

X JR POSTER > J I05 - NUCLEAR SAFETY & SECURITY, NON-PROLIFERATION, SAFEGUARDS AND NUCLEAR FORENSICS, RADIOPROTECTION AND SAFETY CULTURE

KNOWLEDGE OF DENTAL PROFESSIONALS AND STUDENTS REGARDING RADIOLOGICAL PROTECTION IN DENTISTRY: AN INTEGRATIVE REVIEW 1851
Luana Cruz Santiago, Karen Borges Waltrick, Ramon Paiva Ribeiro, Francieli Bernardo Ribeiro, Apolinário De Oliveira Botelho, Cristiny Tretto Lemes Pereira Dutra, Andrea Huhn, Daiane Cristini Barbosa De Souza

EVALUATION OF THE EFFECTIVE DOSE IN AN ABDOMINAL CT PROTOCOL USING VIRTUAL DOSE® AND NCICT® SOFTWARES 1855
Maria Eduarda Vieira Cidral, Camila Faria Ribeiro, Isadora Tomanqueves Costa, Francieli Bernardo Ribeiro, Alexandre Maciel Rolim, Cristiny Tretto Lemes Pereira Dutra, Gerusa Ribeiro, Daiane Cristini Barbosa De Souza

ESTIMATION OF DIAGNOSTIC REFERENCE LEVELS (DRLS) IN INTERVENTIONAL PROCEDURES PERFORMED AT A RADIOLOGY SERVICE IN SOUTHERN BRAZIL 1859
Fernando Rockembach Mazuim, Isadora Tomanqueves Costa, Florencia Agustina Perez Gutierrez, Cristiny Tretto Lemes Pereira Dutra, Marcos Araquem Scopel, Cátia Simone Griebler Gomes, Tiago Trindade Hahn, Daiane Cristini Barbosa De Souza

ANALISE DO PONTO DE CONTROLE DO REATOR ARGONAUTA..... 1863
Gustavo Claassen, Eará De Souza Luz Oliveira

Author Index