



XVI ENFIR POSTER TECHNICAL SESSIONS

September 30, Wednesday (4:00 to 6:30 pm)

ROOM LOUVRE

Chair: Maria de Lourdes Moreira – IEN/CNEN-RJ

Nuclear Reactor Physics	
AN EVALUATION OF THE PWR CYCLE WITH INSERTION OF MAS (ID: 427)	CLARYSSON A. M. SILVA; CLAUBIA PEREIRA; ANTONELLA L. COSTA; MARIA A. F. VELOSO
ANALYTICAL VERSUS DISCRETIZED SOLUTIONS OF FOUR-GROUP DIFFUSION EQUATIONS TO THERMAL REACTORS (ID: 59)	FERNANDO SILVA MELO; RONALDO GLICÉRIO CABRAL; PAULO CONTI FILHO
ASYMPTOTIC EQUIVALENCE OF DANCOFF FACTORS IN CYLINDRICAL AND SQUARE FUEL CELLS (ID: 215)	LETÍCIA JENISCH RODRIGUES; SÉRGIO Q. BOGADO LEITE; MARCO TÚLLIO DE VILHENA
CROSS SECTION WEIGHTING SPECTRUM FOR FAST REACTOR ANALYSIS (ID: 455)	JAMIL ALVES DO NASCIMENTO; SHIZUCA ONO; LAMARTINE N. F. GUIMARÃES
DEVELOPMENT OF A DIGITAL REACTIVITY METER FOR CRITICALITY PREDICTION AND CONTROL ROD WORTH EVALUATION IN PRESSURIZED WATER REACTORS (ID: 1183)	RENATO Y. R. KURAMOTO; ANSELMO F. MIRANDA; GASTÃO LOMMEZ VALLADARES; ADELK C. PRADO
EVALUATION OF POWER BEHAVIOR DURING STARTUP AND, , SHUTDOWN PROCEDURES OF THE IPR-R1 TRIGA REACTOR (ID: 306)	DANTE M. ZANGIROLAMI; AMIR Z. MESQUITA; ANDRÉA V. FERREIRA
GB -A PRELIMINARY LINKING CODE BETWEEN MCNP4C AND ORIGEN2.1 - DEN/UFMG VERSION (ID: 687)	DANIEL A. M. CAMPOLINA; ANDRÉ S. C. SERRA; CLAUBIA PEREIRA; MARIA A. F. VELOSO
MEASUREMENT OF THE NEUTRON FLUX IN THE CORE OF THE IPEN/MB-01 REACTOR BY IRRADIATION OF ACTIVATION FOILS (ID: 662)	ULYSSES D'UTRA BITELLI; LUCAS BATISTA GONÇALVES; LEDA C.C. BERNARDES FANARO
MEASUREMENTS OF THE NUCLEAR REACTION RATES AND SPECTRAL INDICES ALONG THE RADIUS OF FUEL PELLETS OF THE IPEN/MB-01 REACTOR (ID: 634)	ULYSSES D'UTRA BITELLI; LUIS FELIPE LIAMBOS MURA; LEDA C.C. BERNARDES FANARO; FILHO ; MASOTTI
NEUTRON SPECTRUM OBTAINED WITH MONTE CARLO AND TRANSPORT THEORY (ID: 640)	SHIZUCA ONO; JAMIL ALVES DO NASCIMENTO; LAMARTINE N. F. GUIMARÃES

ON EVALUATED NUCLEAR DATA FILES FOR NEUTRON INDUCED REACTIONS IN NATURAL MATERIALS (ID: 54)	ALEXANDRE D. CALDEIRA
RATIONAL FUNCTION APPROXIMATION METHOD FOR DISCRETE ORDINATES PROBLEMS IN SLAB GEOMETRY (ID: 779)	ANDRÉ LUIZ DO CARMO LEAL; RICARDO CARVALHO DE BARROS
THE EVALUATION OF SET OF CRITICALITY PARAMETERS USING SCALE SYSTEM (ID: 319)	ALFREDO ABE; ANDREA SANCHEZ; MITSUO YAMAGUCHI
A TEMPERATURE DEPENDENT ENDF/B-VI.8 ACE LIBRARY FOR UO ₂ , THO ₂ , ZIRC4, SS AISI-348, H ₂ O, B ₄ C AND AG-IN-CD (ID: 117)	HUGO M DALLE; MARIO BIANCHINI; PAULO CEZAR GOMES
ACCELERATOR DRIVEN SUBCRITICAL RESEARCH FACILITY - H5B CALCULATION. (ID: 1168)	PEDRO C R ROSSI; THIAGO CARLUCCIO; JOSÉ RUBENS MAIORINO
ACTINIDES TRANSMUTATION - A COMPARISON OF RESULTS FOR PWR BENCHMARK (ID: 176)	LUIZ H CLARO
CRITICAL LOADING CONFIGURATIONS OF THE IPEN/MB-01 REACTOR WITH UO ₂ GD ₂ O ₃ BURNABLE POISON RODS (ID: 318)	ALFREDO ABE; ADIMIR SANTOS; RINALDO FUGA; GRACIETE S. ANDRADE E SILVA; LEDA C.C.B. FANARO; MITSUO YAMAGUCHI
MONTE CARLO BURNUP SIMULATION OF THE TAKAHAMA-3 BENCHMARK EXPERIMENT (ID: 116)	HUGO M DALLE
Thermal Hydraulics	
ASSESSMENT OF A RELAP5 MODEL FOR THE IPR-R1 TRIGA RESEARCH REACTOR (ID: 261)	ANTONELLA L COSTA; PATRÍCIA A. L. REIS; CLAUBIA PEREIRA; MARIA AUXILIADORA F. VELOSO; AMIR Z. MESQUITA; HUMBERTO V. SOARES
IMPLEMENTATION OF CONTROL ROD MOVEMENT AND BORON INJECTION OPTIONS BY USING CONTROL VARIABLES IN RELAP5/PARCS V2.7 COUPLED CODE. (ID: 691)	RAFAEL MIRO; TEREZA BARRACHINA; GUMERSINDO VERDU; CLAUBIA PEREIRA; J.L. MARTÍNEZ
REA 3D-DYNAMIC ANALYSIS IN ALMARAZ NPP WITH RELAP5/PARCS V2.7 AND SIMTAB CROSS-SECTIONS TABLES (ID: 696)	TEREZA BARRACHINA; RAFAEL MIRÓ; GUMERSINDO VERDU; CLAUBIA PEREIRA; CLARYSSON DA SILVA; A ORTEGA
THE DECISION-MAKING PROCESS DURING ACCIDENTS OR INCIDENTS IN THE OPERATIONAL NUCLEAR AREA (ID: 230)	MARIA DA PENHA SANCHES MARTINS; SILVIA REGINA VANNI; DELVONEI ALVES DE ANDRADE
VALUATION OF BWR STABILITY OPERATING IN NATURAL CIRCULATION CONDITIONS (ID: 262)	ANTONELLA L COSTA; HUMBERTO V. SOARES; CLAUBIA PEREIRA; MARIA AUXILIADORA F. VELOSO; PATRÍCIA A. L. REIS
VERIFICATION AND VALIDATION OF ONE DIMENSIONAL MODELS USED IN SUBCOOLED FLOW BOILING ANALYSIS (ID: 61)	FRANCISCO A BRAZ FILHO; EDUARDO M. BORGES; ALEXANDRE D. CALDEIRA; GAIANÊ SABUNDJIAN

Deterministic Reactor Safety Analysis	
ANNULAR FUEL PIN HEAT TRANSFER AND LUMPED MODEL CORRECTION (ID: 323)	THANGAVEL SATHIYASHEELA; P. MOHANAKRISHNAN
Probabilistic Reactor Safety Analysis	
ESTIMATIVE OF CORE DAMAGE FREQUENCY IN IPEN'S IEA-R1 RESEARCH REACTOR DUE TO THE INITIATING EVENT OF LOSS OF COOLANT CAUSED BY LARGE RUPTURE IN THE PIPE OF THE PRIMARY CIRCUIT (ID: 852)	DANIEL MASSAMI HIRATA; SABUNDJIAN GAIANÊ; EDUARDO LOBO CABRAL
Radiation Shielding	
IMPROVEMENTS AT THE BIOLOGICAL SHIELDING OF BNCT RESEARCH FACILITY IN THE IEA-R1 REACTOR (ID: 1116)	GREGÓRIO S. SOUZA; PAULO R. P. COELHO; RAFAEL O. R. MUNIZ
Fuel Cycle Management and Services	
ACTRAN: A CODE FOR DEPLETION CALCULATIONS IN PWR CORES AIMING THE PRODUCTION OF MINOR ACTINIDES FOR USING IN ADS (ID: 794)	RUBENS S. SANTOS
DECOMMISSIONING OF AN URANIUM HEXAFLUORIDE PILOT PLANT (ID: 802)	JAMIL MS AYOUB; IVAN SANTOS; FATIMA M S CARVALHO; ALCIDIO ABRÃO
FUEL ASSEMBLY RECONSTITUTION (ID: 723)	MÔNICA G.N. OLIVEIRA; MARIO M. MORGADO; DÉCIO B. JUNIOR; BÁRBARA O. DOS SANTOS; JORGE E. DOS SANTOS
FUEL FOR THE FUTURE BRAZILIAN NUCLEAR POWER PLANTS (ID: 64)	FERNANDO S. LAMEIRAS; KELLY CRISTINA FERREIRA FAËDA
Nuclear Reactor Fuel Fabrication and Design	
ASPECTS ON SINTERING AND GRAIN GROWTH IN PURE AND AL ₂ O ₃ -SiO ₂ DOPED UO ₂ PELLETS (ID: 627)	GINO ASSIS; WILMAR B. FERRAZ; ELIAS B. TAMBOURGI
COMPARISON BETWEEN EXPERIMENTAL AND STOCHASTIC MODELS FOR EVALUATING THERMAL DIFFUSIVITY OF NUCLEAR FUEL BY THE FLASH METHOD (ID: 147)	FABRÍCIO LIMA MIGLIORINI; EGGON HENDRIGO C HENDRIGO CARVALHO SILVA; RICARDO ALBERTO N FERREIRA; PABLO ANDRADE GROSSI; DENISE M. CAMARANO
EFFECT OF DENSIFICATION ADDITIVE (AL (OH) 3) AND U ₃ O ₈ RECYCLE IN SINTERING UO ₂ + 7WT%GD ₂ O ₃ FUEL PELLETS (ID: 778)	LAURO ROBERTO SANTOS
FABRICATION RESULTS OF GAMMA URANIUM-MOLYBDENUM ALLOYS FUELS (ID: 728)	FÁBIO B VAZ DE OLIVEIRA; HUMBERTO G RIELLA

INVESTIGATION OF PHASE TRANSFORMATIONS OF U2.5ZR7.5NB AND U3ZR9NB ALLOYS AGING AT 600 OC (ID: 556)	NATÁLIA M. CANTAGALLI; DANIEL M. BRAGA; ANA MARIA MATILDES SANTOS; JOÃO BOSCO PAULA; WILMAR B. FERRAZ
PHASE CHARACTERIZATIONS OF THE GAMMA DECOMPOSITION OF THE U3ZR9NB SOLID SOLUTION ALLOY DURING ISOTHERMAL TREATMENTS AT 300C: PRELIMINARY WORK (ID: 551)	LEANDRO P.A.R. TANURE; NATÁLIA M. CANTAGALLI; WILMAR B. FERRAZ; DANIEL M. BRAGA; ANA M.M. SANTOS
Nuclear Reactor Instrumentation and Control	
INVERSE KINETICS METHOD WITH SOURCE TERM FOR SUBCRITICALITY MEASUREMENTS DURING CRITICALITY APPROACH IN THE IPEN/MB-01 RESEARCH REACTOR (ID: 338)	CESAR A.D. LOUREIRO; ADIMIR DOS SANTOS; SILVA
THE FINAL CALIBRATION OF THE NUCLEAR POWER CHANNELS OF THE IPEN/ MB-01 REACTOR BY THE USE OF THE ACTIVATION FOILS AND THE MONTE CARLO METHOD (ID: 650)	ULYSSES D'UTRA BITELLI; LUCAS BATISTA GONÇALVES
Nuclear Power Plant Viability, Design, Construction and Operation	
APPLICATION OF BACKPROPAGATION NEURAL NETWORK TO EVALUATE RESIDUAL PROPERTIES OF THERMALLY DAMAGED CONCRETE (ID: 727)	EVANDRO TOLENTINO; YUKIO SHIGAKI; FERNANDO S. LAMEIRAS; WANDER L. VASCONCELOS
Advanced Nuclear Reactors	
A PRELIMINARY NEUTRONIC EVALUATION AND DEPLETION STUDY OF VHTR AND LS-VHTR REACTORS USING THE CODES: WIMSD5 AND MCNPX (ID: 658)	FABIANO CARDOSO; CLAUBIA PEREIRA; ANTONELLA L COSTA; MARIA A. F. VELOSO
A PRELIMINARY SIMULATION OF AN ADS USING MCNPX FOR U233 PRODUCTION (ID: 428)	GRAICIANY P. BARROS; CLAUBIA PEREIRA; MARIA A. F. VELOSO; ANTONELLA L. COSTA
FLUX AND DOSE RATE EVALUATION OF ITER SYSTEM USING MCNP - A PRELIMINARY SIMULATION (ID: 644)	ARIONE ARÁUJO; CLAUBIA PEREIRA; HUGO M DALLE; MARIA A. F. VELOSO; ANTONELLA L COSTA
NEUTRONIC EVALUATION OF A FUEL BLOCK OF A GT-MHR USING WIMSD5 (ID: 426)	CLARYSSON A. M. SILVA; CLAUBIA PEREIRA; MARIA A. F. VELOSO; ANTONELLA L. COSTA; ROGERIO
SIMULATION OF STEAM CONDENSATION IN THE PRESENCE OF NONCONDENSABLE GASES IN HORIZONTAL CONDENSER TUBES USING RELAP5 FOR ADVANCED NUCLEAR REACTORS (ID: 460)	LUIZ A. MACEDO; WALMIR M. TORRES
SPACE NUCLEAR REACTOR SP-100 THERMAL-HYDRAULIC SIMULATION (ID: 114)	EDUARDO M. BORGES; FRANCISCO A. BRAZ FILHO; GIANNINO P. CAMILLO; LAMARTINE N. F. GUIMARÃES

Structural Mechanics	
DETERMIANATION OF ASTM 1016 STRUCTURAL WELDED JOINTS FRACTURE TROUGHNESS THROUGH J INTEGRAL (ID: 316)	GERALDO P. MARTINS; JEFFERSON JOSÉ VILLELA; JOSÉ LÚCIO TERRA; EMERSON GIOVANE RABELLO; JOSÉ RUBENS GONÇALVES CARNEIRO; GERALDO ANTÔNIO SCORALICK MARTINS
EDDY CURRENT NDT: A SUITABLE TOOL TO MEASURE OXIDE LAYER THICKNESS IN PWR FUEL RODS (ID: 100)	DONIZETE A ALENCAR; ADOLPHO SOARES; SILVÉRIO F. SILVA JUNIOR; ANDRÉ L.P. VIEIRA
EVALUATION OF THE DUCTILE-TO-BRITTLE TRANSITION TEMPERATURE IN STEEL LOW CARBON (ID: 596)	CÁSSIO MELO MOURA; JEFFERSON JOSÉ VILELA; EMERSON GIOVANI RABELLO; GERALDO DE PAULA MARTINS; JOSÉ RUBENS GONÇALVES CARNEIRO
FATIGUE DAMAGE MEASUREMENT BASED ON ELECTRICAL RESISTANCE CHANGE IN CARBON STEEL C45 (ID: 494)	NELSON N ATANAZIO FILHO; PAULO T. VIDA GOMES; TANIUS R. MANSUR; ANDRÉ L. NOGUEIRA
MEDIÇÃO DE DANO POR FADIGA NO AÇO CARBONO C45 UTILIZANDO TÉCNICA DE EXTENSOMETRIA. (ID: 490)	ANDRÉ LUIZ NOGUEIRA; NELSON N. ATANAZIO FILHO; TÂNIOUS R. MANSUR
System and Equipment Design	
THE USERS CENTERED DESIGN OF A NEW DIGITAL FLUOROMETER (ID: 349)	MARCOS SANTANA FARIAS; ISAAC J. A. L. SANTOS; CLAUDIO H. S. GRECCO; PAULO S. PEDROSA; CARLOS M. COLTHURST; ANDRE PEDRO SZABO
Computational Fluid Dynamics	
NUCLEAR RESEARCH REACTOR IEA-R1 HEAT EXCHANGER INLET NOZZLE FLOW - A PRELIMINARY STUDY (ID: 954)	DELVONEI ALVES DE ANDRADE; GABRIEL ANGELO; GERSON FAJNER; EDVALDO ANGELO
Applied Mathematics and Computation	
AN ANALYTICAL SOLUTION FOR THE ONE-DIMENSIONAL TIME-DEPENDENT SN TRANSPORT EQUATION FOR BOUNDED AND UNBOUNDED DOMAIN IN CARTESIAN GEOMETRY (ID: 335)	CYNTHIA F SEGATTO; TÍFANI TEIXEIRA GONÇALEZ; MARCO TÚLLIO VILHENA
GAMMA IRRADIATOR DOSE MAPPING: A MONTE CARLO SIMULATION AND EXPERIMENTAL MEASUREMENTS (ID: 371)	ROGÉRIO RIVAIL RODRIGUES; RÔMULO S. VERDOLIN; MARIANA RIBEIRO; SUELY E. GRYNBERG; ANDRÉA V. FERREIRA; LUIZ CLÁUDIO MEIRA-BELO
STUDY OF THE BARITE MORTAR COMPOSITION AND ITS INFLUENCE ON DETERMINATION OF PRIMARY TRANSMISSION CURVES APPLIED TO DIAGNOSTIC RADIOLOGY (ID: 545)	SANDRO FERNANDES FIRMINO; WEDLA PIRES DE SOUZA; GABRIELA HOFF; MARCO TULLIO VILHENA

Artificial Intelligence	
A NUCLEAR HEURISTIC FOR APPLICATION TO METAHEURISTICS IN THE IN-CORE FUEL MANAGEMENT OPTIMIZATION (ID: 342)	ANDERSON A. M. MENESES; LUCA MARIA GAMBARDELLA; ROBERTO SCHIRRU
A NUCLEAR RELOAD OPTIMIZATION APPROACH USING A REAL CODED GENETIC ALGORITHM WITH RANDOM KEYS (ID: 500)	ALAN M. M. DE LIMA; JOSE A. C. C. MEDEIROS; ROBERTO SCHIRRU
AN APPROACH USING QUANTUM ANT COLONY OPTIMIZATION APPLIED TO THE PROBLEM OF IDENTIFICATION OF NUCLEAR POWER PLANT TRANSIENTS (ID: 565)	MÁRCIO H. DA SILVA; ROBERTO SCHIRRU; JOSE A.C.C. MEDEIROS
AN APPROACH USING QUANTUM ANT COLONY OPTIMIZATION APPLIED TO THE PROBLEM OF NUCLEAR REACTORS RELOAD (ID: 563)	JOSE A.C.C. MEDEIROS; MÁRCIO H. DA SILVA; ROBERTO SCHIRRU; ALAN M.M. DE LIMA
APPLYING A NEURO-FUZZY APPROACH FOR TRANSIENT IDENTIFICATION IN A NUCLEAR POWER PLANT (ID: 602)	ANTÔNIO C A MOL; PAULO V. R. CARVALHO; CLÁUDIO M. N. A PEREIRA; RAFAEL G COSTA
GMDH AND NEURAL NETWORKS APPLIED IN TEMPERATURE SENSORS MONITORING (ID: 70)	ELAINE INACIO BUENO; IRACI MARTINEZ PEREIRA; ANTONIO TEIXEIRA SILVA
MONITORING AND OPERATIONAL SUPPORT ON NUCLEAR POWER PLANTS USING AN ARTIFICIAL INTELLIGENCE SYSTEM (ID: 948)	PAULO H BIANCHI; BENEDITO DIAS BAPTISTA FILHO
QUANTUM COMPUTATION AND SWARM INTELLIGENCE APPLIED IN A ACCIDENT DIAGNOSIS OPTIMIZATION OF A PWR NUCLEAR POWER PLANT (ID: 538)	ANDRESSA DOS SANTOS NICOLAU; ROBERTO SCHIRRU ROBERTO SCHIRRU; JOSE A.C.C MEDEIROS
REAL TIME DETERMINATION OF DOSE RADIATION THROUGH ARTIFICIAL INTELLIGENCE AND VIRTUAL REALITY (ID: 298)	ANTÔNIO C A MOL; CLÁUDIO MNA PEREIRA; VICTOR GG FREITAS
TIME RESPONSE OF TEMPERATURE SENSORS USING NEURAL NETWORKS (ID: 630)	ROBERTO CARLOS SANTOS; IRACI MARTINEZ PEREIRA
Man Machine Interface	
APPLYING COMPUTER-BASED PROCEDURES IN NUCLEAR POWER PLANTS (ID: 231)	MAURO V. OLIVEIRA; DIEGO S. BRUNO; PAULO V.R. CARVALHO; ISAAC J.A.L. SANTOS; CLAUDIO H.S. GRECCO
HUMAN FACTORS QUESTIONNAIRE AS A TOOL FOR RISK ASSESSMENT (ID: 108)	CLÁUDIO H. S. GRECCO; ISAAC J. A. L. SANTOS; PAULO V. R. CARVALHO; ANTONIO C. A. MOL; MAURO V. OLIVEIRA; SILAS C. AUGUSTO
USING VIRTUAL REALITY IN THE TRAINING OF SECURITY STAFF AND EVALUATION OF PHYSICAL PROTECTION BARRIERS IN NUCLEAR FACILITIES (ID: 281)	SILAS C AUGUSTO; ANTONIO CARLOS DE ABREU MOL; PEDRO MOL COUTO; DOUGLAS SOUZA SALES

Optimization Methods

A PSO APPROACH FOR PREVENTIVE MAINTENANCE SCHEDULING OPTIMIZATION (ID: 299)	ANTÔNIO C A MOL; CLÁUDIO MNA PEREIRA; CELSO MF LAPA; ANDRÉ F LUZ
GPU-BASED HIGH PERFORMANCE MONTE CARLO SIMULATION IN NEUTRON TRANSPORT (ID: 486)	MOL C A ANTÔNIO; ADINO A HEIMLICH; CLÁUDIO M N A PEREIRA
PARALLEL PARTICLE SWARM OPTIMIZATION ALGORITMS IN NUCLEAR PROBLEMS (ID: 321)	MARCEL WAINTRAUB; CLÁUDIO M. N. A. PEREIRA; ROBERTO SCHIRRU