



International Nuclear Physics Conference 2019



29 July – 2 August 2019
Scottish Event Campus, Glasgow, UK

Poster programme

Poster Session A

Monday 29 July, Halls 1 and 2

- P01** **Studies of low-energy K^- interactions with light nuclei by AMADEUS**
Raffaele Del Grande, INFN-LNF, Italy
- P02** **Imaging of prompt gamma emissions during proton cancer therapy for geometric and dosimetric verification**
Hamed Alshammari, University of Liverpool, UK
- P03** **Electric Monopole Transitions (E0) in the study of ^{70}Ge**
Abraham Aungwa Avaa, iThemba Labs, South Africa
- P04** **Development of a spectrometry system for measurement of internal-pair studies**
Maluba Vernon Chisapi, iThemba Labs and Stellenbosch University, South Africa
- P05** **Infrastructure ACI fabric based on EVPN MPBGP data transfer protocols for Tier 1 and Tier 2 data centers**
Andrey Baginyan, JINR, Russia
- P06** **A compact RFQ cooler buncher for CRIS experiments**
Ben Cooper, University of Manchester, UK
- P07** **Novel experiments with ion catcher facilities**
Timo Dickel, GSI Helmholtz Center for Heavy Ion Research, Germany
- P08** **Performance test of 200 μm Scintillation-Fiber Detector with Silicon Photomultiplier Readout**
Ashton Falduto, Technische Universität Darmstadt, Germany
- P09** **Development of a photon polarimeter prototype**
Simon Gardner, Glasgow University, UK
- P10** **Efficiency investigation of wide area gas proportional counter in relationship with pressure and type of filled gas**
Seyedmohammad Golgoun, Pars Isotope Co., Iran
- P11** **The neutrino self-interaction and MSW effects on the neutrino-process for supernovae**
Myung-Ki Cheoun, Soongsil University, Republic of South Korea
- P12** **Towards renormalization invariant equation of state of nuclear matter**
Mehdi Drissi, University of Surrey, UK



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- P13 Investigation of high-lying (α,γ) resonances in ^{22}Ne through one-neutron transfer in inverse kinematics with SHARC/TIGRESS**
Stephen Gillespie, TRIUMF, Canada
- P14 Study of the excitation functions and isomer ratios for $^{184m,g}\text{Re}$ and $^{186m,g}\text{Re}$ isomeric pairs**
Roza Avetisyan, A.Alikhanyan National Science Laboratory, Armenia
- P15 Isospin influence on the reaction mechanisms in the $^{78}\text{Kr} + ^{40}\text{Ca}$ and $^{86}\text{Kr} + ^{48}\text{Ca}$ collisions at 10 A MeV**
Gnoffo Brunilde, INFN Sez. di Catania and Università degli Studi di Catania, Italy
- P16 First advanced studies of isospin dynamics with FAZIA**
Alberto Camaiani, Università degli Studi and INFN di Firenze, Italy
- P17 On evaluating correction to the surface energy of the nuclei due to the surface curvature and its influence on the orientation effects in fusion reactions**
Kostyantyn Cherevko, Taras Shevchenko National University of Kyiv, Ukraine
- P18 On nuclear fragmentation at the intermediate energy head-on heavy ion collisions**
Kostyantyn Cherevko, Taras Shevchenko National University of Kyiv, Ukraine
- P19 Fission rate of excited nuclei at variable friction in the energy diffusion regime**
Maria Chushnyakova, Omsk State Technical University, Russia
- P20 Isomeric cross section ratios data as a test for codes descriptive of nuclear reactions**
Tatjana Chuvilskaya, Moscow State University, Russia
- P21 Isospin triplet A=12: search for states with enhanced radii**
Andrey Danilov, Kurchatov Institute, Russia
- P22 Cosmic ray, meteorites, planetology: which spallation reactions modeling is helpful?**
Jean-Christophe David, CEA, France
- P23 Estimate of breakup-induced three-body force effects in the incident channel of (d,p) reactions**
Michael Dinmore, University of Surrey, UK
- P24 Isospin Effect on fragment production and reaction mechanisms for Ni+Ca systems at 25 A MeV**
Elena Geraci, University of Catania and INFN Catania, Italy
- P25 Influence of angular momentum induced shape transitions on level density and emission spectra**
Mamta Aggarwal, University of Mumbai, India
- P26 Decay spectroscopy of the proton rich isotopes $^{176,177}\text{Tl}$**
Muneerah Alaqeel, University of Liverpool, UK
- P27 Quasi-free scattering off neutron-rich ions at relativistic beam energies at R3B**
Tahani Almusidi, University of York, UK
- P28 Bogoliubov many-body perturbation theory**
Pierre Arthuis, University of Surrey, UK
- P29 Investigations of the bound and unbound $2+$ states in ^{20}C**
Liam Atkins, Department of Physics, UK



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- P30** **Exploring the triaxial deformation of ^{163}Ta through plunger lifetime measurements**
Liam Barber, University of Manchester, UK
- P31** **Evolving shapes and shape coexistence in the neutron-deficient selenium isotopes studied by Coulomb excitation**
Kevin Belvedere, University of Surrey, UK
- P32** **Interplay between single particle and collective excitation in ^{49}V**
Abhijit Bisoi, Indian Institute of Engineering Science and Technology, India
- P33** **Gamma ray and conversion electron decay spectroscopy of neutron-rich francium isotopes**
Michael Bowry, University of the West of Scotland, UK
- P34** **Discovery of the new nuclides ^{160}Os and ^{156}W**
Andrew Briscoe, University of Liverpool, UK
- P35** **Half-life measurements in ^{164}Dy and ^{166}Dy using the NuBALL Spectrometer**
Rhiann Canavan, University of Surrey, UK
- P36** **A quest for the two-photon gamma-decay physics-case and a commissioning test for ELIGANT**
Luigi Capponi, Extreme Light Infrastructure -Nuclear Physics, Romania
- P37** **Lifetime of excited states in ^{228}Th following β -decay and systematics of its octupole deformation**
Muhammad Majid Rauf Chishti, University of the West of Scotland, UK
- P38** **Structures at the neutron drip-line: probing the halo nature of ^{19}B using Coulomb breakup**
Kaitlin Cook, Tokyo Institute of Technology, Japan
- P39** **Precision fast-timing measurements in neutron-deficient Po isotopes at IFIN-HH**
Cristian Costache, IFIN-HH, Romania
- P40** **Neutron occupancies of neutrinoless double-beta decay candidate nuclei**
Benjamin Cropper, University of Manchester, UK
- P41** **Signals of a new symmetry in atomic nuclei**
Jozsef Cseh, Institute for nuclear research of the Hungarian academy of sciences, Hungary
- P42** **SRC based model for the nuclear structure**
Ranjeet Dalal, Guru Jambheshwar University, India
- P43** **Lifetime measurement and decay spectroscopy of $^{117,118}\text{Sn}$**
Sangeeta Das, Saha Institute of Nuclear Physics, India
- P44** **Nuclear Structure properties significant to neutrino-less double beta decay of ^{124}Sn**
Vivek Datar, TIFR, India
- P45** **^{81}Ga spectroscopy: probing ^{78}Ni neutron-core excitations**
J r mie Dudouet, CSNSM, France
- P46** **Nuclear incompressibility from spherical and deformed nuclei**
Gianluca Col , Universit  degli Studi di Milano, Italy
- P47** **Teaching university physics to students from different school systems: Australia's state-based education**
Paul Fraser, UNSW Canberra, Australia



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- P48 Photocouplings of hidden-charm pentaquarks**
Roelof Bijker, ICN-UNAM, Mexico
- P49 Beam asymmetries from light scalar meson photoproduction on the proton at GlueX**
Stuart Fegan, George Washington University, USA
- P50 Simulation of a neutron source at the KFSH&RC CS-30 cyclotron**
Shaykhah Alsaïdan, King Saud University, Saudi Arabia
- P51 Position reconstruction of gamma ray interactions in monolithic scintillators**
Faten Alsomali, University of York, UK
- P52 Developments at AWE in support of the Comprehensive Nuclear-Test-Ban Treaty – Ultra sensitive measurements of airborne nuclear debris**
Richard Britton, AWE, UK
- P53 Development of a 3D position sensitive monolithic scintillation detector**
James Brown, University of York, UK

Poster Session B

Tuesday 30 July, Halls 1 and 2

- P54 Towards the X-ray measurement of kaonic deuterium at J-PARC**
Tadashi Hashimoto, Japan Atomic Energy Agency, Japan
- P55 Collectivity Studies in the Neutron-Deficient A=80 Region**
Ryan Llewellyn, University of York, UK
- P56 Momentum spectroscopy in neutron beta decay with NoMoS**
Daniel Moser, Stefan Meyer Institute and OEAW, Austria
- P57 Measurement of isospin mixing in the β decay of ^{36}K**
Shloka Chandavar, Michigan State University, USA
- P58 Subatomic nuclear activity in the Hydrogen based Rydberg matter state**
Sveinn Ólafsson, Science Institute University of Iceland, Iceland
- P59 Double beta decay and the quest for Majorana neutrinos**
Jenni Kotila, University of Jyväskylä, Finland
- P60 New generation S = -2 spectroscopy opened with active fiber target**
Takeshi Harada, Kyoto University, Japan
- P61 High energy gamma source and its applications**
Chuangye He, China Institute of Atomic Energy, China
- P62 The development of novel pulse shape analysis algorithms for the advanced gamma tracking array (AGATA)**
Fraser Holloway, University of Liverpool, UK
- P63 Imaging of prompt gamma emissions during proton therapy for geometric and dosimetric verification: NPTool simulation**
Sarah Kalantan, University of Liverpool, UK



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- P64 Stable ion beam experiments with the DRAGON recoil separator at TRIUMF**
Uwe Greife, Colorado School of Mines, USA
- P65 Low energy stopping power measurements of hydrogen and helium ions in light gases**
Uwe Greife, Colorado School of Mines, USA
- P66 Insights on the carbon burning at astrophysical energies by fast-timing gamma-particle coincident measurements**
Marcel Heine, IPHC and Universite de Strasbourg, France
- P67 Mass measurement of neutron-rich ^{122}Rh , $^{123,124}\text{Pd}$ and ^{125}Ag nuclides with Rare RI Ring at RIBF in RIKEN**
Hongfu Li, RIKEN, Japan
- P68 Properties of rotating compact stars at different evolutionary stages**
Sarmistha Banik, BITS pilani, India
- P69 Rapid differentially rotating hot neutron stars within relativistic model**
Sarmistha Banik, BITS pilani, India
- P70 Experimental study of ^4n with $^8\text{He}(p,2p)$ reaction**
Siwei Huang, RIKEN Nishina Center, China
- P71 Fission fragment mass distributions of Astatine isotopes within collective clusterization approach**
Amandeep Kaur, Thapar Institute of Engineering and technology, India
- P72 Investigation of fusion dynamics for reactions induced by Si isobars at similar Ec.m.**
Amandeep Kaur, Thapar Institute of Engineering and technology, India
- P73 Statistical and dynamical bimodality in fragmentation of finite nuclei**
Swagata Mallik, Variable Energy Cyclotron Centre, India
- P74 Scaling with deformation in the exotic medium mass region**
Fnu Manju, IIT Roorkee, India
- P75 Identification of gamma-ray vortices with compton scattering**
Tomoyuki Maruyama, Nihon University, Japan
- P76 Width and shift of longitudinal momentum distribution in fragmentation process at intermediate energies**
Sadao Momota, Kochi University of Technology, Japan
- P77 Energy dependence of reaction cross section for ^{17}Ne on proton target**
Tetsuaki Moriguchi, University of Tsukuba, Japan
- P78 New method to evaluate the averaged squared radius of the nuclei in the process of direct and isomer fission**
Cristiana Oprea, JINR, Russia
- P79 Cross sections of tagged neutron reactions with emission of charged particles**
Cristiana Oprea, JINR, Russia
- P80 Lifetime measurements beyond ^{132}Sn with the ν -ball array**
Guillaume Häfner, CSNSM, France



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- P81** **Developing techniques for lifetime measurements in the heavy elements**
Jacob Heery, University of Liverpool, UK
- P82** **Coulomb excitation of ^{142}Xe**
Corinna Henrich, IKP TU Darmstadt, Germany
- P83** **Weak coupling of $1p_{1/2}$ states to platonic shapes in ^{208}Pb**
Andreas Heusler, Heidelberg, Germany
- P84** **Nuclear spectroscopy of r-process nuclei in the vicinity of $N=126$ by using KISS**
Yoshikazu Hirayama, Wako Nuclear Science Center, Japan
- P85** **Investigation of ^{150}Sm nuclear structure using the (p,t) reaction**
Alina-Nicoleta Ionescu, Horia Hulubei National Institute for Physics and Nuclear Engineering (IFIN-HH), Romania
- P86** **Investigation of deuteron scattering from ^{13}C at low energy**
Shaheen Jazrawi, University of Surrey, UK
- P87** **Lifetime measurements of the non-yrast structure in ^{102}Mo**
Alison Bruce, University of Brighton, UK
- P88** **Investigating the structure properties of the low-lying states of ^{140}Ba**
Ahmed Khaliel, National and Kapodistrian University of Athens, Greece
- P89** **Nuclear reactions in the storage ring ESR with EXL**
Thorsten Kröll, TU Darmstadt, Germany
- P90** **g-factor measurement of the $11/2^-$ isomeric state in ^{133}La**
Md. Sazedur Rahaman Laskar, Tata Institute of Fundamental Research, India
- P91** **Quantitative analysis of tensor effects in the relativistic Hartree-Fock theory**
Haozhao Liang, RIKEN and University of Tokyo, Japan
- P92** **Fast-timing studies in $^{214,216,218}\text{Po}$ following the beta-minus decay of $^{214,216,218}\text{Bi}$ isotopes at the ISOLDE Decay Station**
Razvan Lica, IFIN-HH, Romania
- P93** **Nucleon occupancies of the $A=124$ neutrinoless double beta-decay system**
Patrick MacGregor, University of Manchester, UK
- P94** **Shape coexistence in neutron deficient mercury isotopes**
Andrew MacLean, University of Guelph, Canada
- P95** **Decay spectroscopy of neutron-rich molybdenum and implications for the ground-state properties of isobaric niobium isotopes**
Aj Mitchell, Australian National University, Australia
- P96** **Unbound states of neutron-rich, even-even C isotopes**
Silvia Murillo-Morales, University of York, UK
- P97** **Investigation of the Pygmy Dipole Resonance in photon scattering experiments**
Miriam Müscher, University of Cologne, Germany



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- P98** **Coulomb energy density functionals for nuclear systems**
Tomoya Naito, The University of Tokyo and RIKEN Nishina Center, Japan
- P99** **Role of pair-vibrational correlations in forming the odd-even mass difference**
Kai Neergård, Denmark
- P100** **Shape coexistence in the Pb region: A systematic study of the even-even 188-200Hg with GRIFFIN**
Bruno Olaizola, TRIUMF, Canada
- P101** **Outreach and engagement in Australia and the Indo-Pacific region**
Aj Mitchell, Australian National University, Australia
- P102** **Experimental constraint on the quantum number of $\Lambda c(2765)^+$**
Changwoo Joo, University of Tokyo, Japan
- P103** **Studying neutron structure at Jefferson Lab through electron scattering off the deuteron, using CLAS12 and the Central Neutron Detector**
Paul Naidoo, University of Glasgow, UK
- P104** **Pulse shape discrimination capable plastic scintillator formulations with enhanced mechanical hardness**
Uwe Greife, Colorado School of Mines, USA
- P105** **Use of a broad energy germanium (BEGe) detector for tomographic interrogations of radioactive waste drum**
David Igwesi, University of Liverpool, UK
- P106** **TRITIUM: A real-time tritium monitor system for water quality assesment**
Marcos Martinez, Universidad de Valencia, Spain

Poster Session C

Thursday 1 August, Halls 1 and 2

- P107** **A versatile plastic neutron spectrometer for nuclear reaction and application: NArCoS**
Emanuele Vincenzo Pagano, INFN, Italy
- P108** **Hybrid Array of Gamma Ray Detectors (HAGRiD)**
Xesus Pereira-Lopez, University of York, UK
- P109** **Development of a photoionization mass spectrometer for 85Kr detection**
Holly Perrett, University of Manchester, UK
- P110** **Considerations on the composition and spectra of the secondary radiation fields inside the E1 experimental area at ELI-NP**
Radu Alin Vasilache, Bucharest Polytechnical University, Romania
- P111** **An implantation Diamond detector as a beam monitor for an intense radioactive ion beam**
Jennifer Sanchez Rojo, University of York, UK
- P112** **MIRACLS – The Multi Ion Reflection Apparatus for Collinear Laser Spectroscopy**
Simon Sels, CERN, Switzerland



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- P113** **The SIDDHARTA-2 Apparatus for Kaonic Deuterium X-Ray Measurements at DAFNE**
Marlene Tüchler, Stefan Meyer Institute for Subatomic Physics, Austria
- P114** **Optimising sensor geometry of a photodiode based detector for the direct detection of strontium 90 in groundwater**
Graeme Turkington, University of Glasgow, UK
- P115** **Characterisation of the QADRO detector response at proton and electron beams**
Radu Vasilache, Canberra Packard SRL, Romania
- P116** **Monte-Carlo simulation of ion distributions in a gas cell for multinucleon transfer reaction products at LENSIAF spectrometer**
Junying Wang, Chinese Academy of Sciences, China
- P117** **Fine optimization of SCRIT facility for short-lived nuclei experiment**
Masamitsu Watanabe, RIKEN, Japan
- P118** **Silicon vertex tracker studies for a future electron-ion collider**
Håkan Wennlöf, University of Birmingham, UK
- P119** **Commissioning and initial operation of the electromagnetic mass analyser (EMMA) at the TRIUMF ISAC-II Facility**
Matthew Williams, TRIUMF, Canada
- P120** **Systematic study of pasta nuclei in neutron stars with families of the empirical nuclear equations of state**
Kazuhiro Oyamatsu, Aichi Shukutoku University, Japan
- P121** **Impact of d^* degree of freedom on nucleonic equation of state**
Alessandro Pastore, University of York, UK
- P122** **Iterative gaussian process emulation for learning energy surfaces for the inner crusts of neutron stars**
Matthew Shelley, University of York, UK
- P123** **The structure of proto-neutron stars using the variational method with explicit energy functionals taking account of the two-pion-exchange force**
Kaoru Shoji, Waseda University, Japan
- P124** **Isovector effects in neutron stars**
Anthony Thomas, University of Adelaide, Australia
- P125** **Energy dependence of the total cross sections for the reactions $4,6,8\text{He} + {}^{28}\text{Si}$ and $6,7,9,11\text{Li} + {}^{28}\text{Si}$**
Mikhail Naumenko, Joint Institute for Nuclear Research, Russia
- P126** **Study of fission dynamics by K x-ray measurement**
Arindam Kumar Sikdar, Variable Energy Cyclotron Center, India
- P127** **The discovery of the surprising-large ${}^{88}\text{Zr}$ thermal-neutron capture cross section**
Nicholas Scielzo, Lawrence Livermore National Laboratory, USA
- P128** **Measuring fission prompt gamma multiplicities and energies with STEFF**
Adhitya Sekhar, University of Manchester, UK



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- P129** **Implementation of a “Known-Mass” three parameter neutron multiplicity technique to underpin the decommissioning of challenging waste stream material**
Ryan Simpson, AWE, UK
- P130** **Fusion hindrance and pauli blocking in $^{58}\text{Ni} + ^{64}\text{Ni}$**
Alberto M. Stefanini, INFN, Italy
- P131** **Lifetime measurement of the ^{26}O g.s. at SAMURAI**
Sonja Storck, TU Darmstadt, Germany
- P132** **The application of chiral forces with the semi-local regularization in momentum space to the deuteron and ^3H photodisintegrations**
Vitalii Urbanevych, Jagiellonian University, Poland
- P133** **Analysis of the three pion production channel using machine learning techniques**
Robert Wishart, Department of Physics and Astronomy, UK
- P134** **Quasi-elastic excitation function for $^{16}\text{O}+^{169}\text{Tm}$ system: role of hexadecapole deformation**
Abhishek Yadav, Jamia Millia Islamia, India
- P135** **Laser spectroscopy of neutron-deficient tin approaching 100Sn**
Fredrik Parnefjord Gustafsson, KU Leuven, Switzerland
- P136** **Hartree-Fock and J Projection approach to K-Selection rule violation in ^{174}Yb and ^{175}Lu**
Z. Naik, Institute of Physics, India
- P137** **Lifetime determination via the particle- γ coincidence Doppler-shift attenuation method**
Sarah Prill, University of Cologne, Germany
- P138** **Using α -transfer reactions to populate new radioactive isotopes**
Fitzgerald Ramírez, Universidad Nacional de Colombia, Colombia
- P139** **Fundamental properties of nuclear ground and isomeric states in neutron-deficient indium from laser spectroscopy**
Christopher Ricketts, University of Manchester, UK
- P140** **Collectivity of ^{66}Zn through Coulomb excitation**
Marco Rocchini, INFN Florence, Italy
- P141** **Sub-nanosecond K-isomers in ^{178}W**
Matthias Rudigier, University of Surrey, UK
- P142** **Investigation of the Dipole Response of ^{58}Ni and ^{60}Ni**
Jacqueline Sinclair, University of the West of Scotland, UK
- P143** **Coulomb Excitation of $^{222,224}\text{Rn}$**
Pietro Spagnoletti, University of the West of Scotland, UK
- P144** **Probing single-particle and more complex configurations in ^{55}Co and ^{55}Ni**
Mark Spieker, National Superconducting Cyclotron Laboratory, USA
- P145** **Shape coexistence of proton-rich mercury isotopes studied through β decay**
Marek Stryjczyk, KU Leuven, Belgium



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- P146** **Lifetime measurements of excited ^{220}O**
Luke Tetley, University of York, UK
- P147** **Examining isospin symmetry via one- and two- nucleon knockout reactions**
Sivahami Uthayakumaar, University of York, UK
- P148** **Suppressed and unsuppressed E2 branches in ^{78}Ge and neighboring nuclei**
Anne Forney, University of Maryland, USA
- P149** **Testing isospin symmetry through Coulomb excitation of nuclei along N=Z**
Kathrin Wimmer, University of Tokyo, Japan
- P150** **Investigation of the nuclear structure of ^{33}Al through beta-decay of ^{33}Mg to probe the island of inversion**
Tammy Zidar, University of Guelph, Canada
- P151** **Mass-dependent cuts in longitudinal phase space**
Peter Pauli, University of Glasgow, UK
- P152** **Analysis of 2 vector-meson photoproduction with CLAS12 at the Thomas Jefferson Laboratory, Virginia USA**
Adam Thornton, University of Glasgow, UK
- P153** **Recent results for forward J/ψ production in Pb–Pb Ultra-Peripheral Collisions at $\sqrt{s_{NN}} = 5.02$ TeV with the ALICE detector**
Simone Ragoni, University of Birmingham, UK
- P154** **Measuring the skewness dependency of generalized parton distributions**
Eric Voutier, Institut de Physique Nucléaire, France
- P155** **A generalised gamma spectrometry simulator for developing nuclide identification algorithms**
Anthony Turner, University of Birmingham, UK