



# SAIP2023

## Tuesday 04 July 2023

### Nuclear, Particle and Radiation Physics (10:00-10:40)

-Conveners: Edward Nkadimeng

time	[id] title	presenter
10:00	[117] Probing the parameter space of Scale Invariant Scotogenic Model at the LHC	KUMAR, Mukesh
10:20	[223] Growing evidence of new scalar at the large hadron collider with a mass around 152 GeV	DAHBI, Salah-eddine

### Nuclear, Particle and Radiation Physics (11:00-12:00)

-Conveners: Retief Neveling

time	[id] title	presenter
11:00	[272] Photoabsorbtion Cross-Section of Mg 24.	BEKKER, Jacob
11:20	[170] Discrepancies between (p,p') and (g,xn) experiments	Dr DONALDSON, Lindsay
11:40	[78] Isoscalar giant monopole strength in 58Ni, 90Zr, 120Sn and 208Pb	Dr BAHINI, Armand

### Nuclear, Particle and Radiation Physics (14:00-15:20)

-Conveners: Mukesh Kumar

time	[id] title	presenter
14:00	[152] Probing clustering in light nuclei through particle decay measurements	NEVELING, Retief
14:20	[236] Development of (p,p' $\gamma$ ) detection capabilities at iThemba LABS through the study of low-lying E1 strength in 58Ni	Ms MOLLAENG, Refilwe
14:40	[60] A search for tWZ production at $\sqrt{s}=13\text{TeV}$ with the ATLAS detector	VELTMAN, Alexander
15:00	[5] Axion-Like Particles at Future $e^+p$ Colliders	Mr MOSALA, Karabo

# Wednesday 05 July 2023

## Nuclear, Particle and Radiation Physics (09:40-10:40)

-Conveners: Lindsay Donaldson

time	[id] title	presenter
09:40	[218] $^{39}\text{Ca}$ and its relevance in nuclear astrophysics	BINDA, Sifundo
10:00	[222] Photon Strength Function Measurements at iThemba LABS	Dr MALATJI, Kgashane
10:20	[73] Statistical Properties of $\text{Xe-133}$ from Inverse Kinematics Reactions using Ratio Method.	SEAKAMELA, Teffo

## Nuclear, Particle and Radiation Physics (11:00-12:00)

-Conveners: Retief Neveling

time	[id] title	presenter
11:00	[183] High Energy Neutrons at the NRF-iThemba LABS	MALEKA, Peane
11:20	[215] Determination of reaction activities on Au and Tm targets using the quasi-monoenergetic neutron beams at approximately 90 MeV	Ms NDEVU, Luyanda
11:40	[105] Measurements of neutron response functions for a BC-501A liquid organic scintillator between 5 – 66 MeV at the iThemba LABS fast neutron beam facility	MAIBANE, Kutullo

## Nuclear, Particle and Radiation Physics (14:00-15:00)

-Conveners: John Sharpey-Schafer

time	[id] title	presenter
14:00	[206] Building a Hybrid Compton Camera System for Improving Proton Therapy Imaging	HART, Shanyyn
14:20	[266] Increasing the location rate of Positron Emission Particle Tracking (PEPT) measurements at PEPT Cape Town	PERIN, Rayhaan
14:40	[59] Evaluation of the significance of a scalar candidate at 95 GeV at the LHC	PILUSA, Thabo

## Nuclear, Particle and Radiation Physics (15:20-17:40)

-Conveners: Edward Nkadimeng

time	[id] title	presenter
15:20	[80] Analysis of Frequentest Study Results in Quantifying Fake Signal Generated in the Training of Semi-Supervised DNN Classifiers	LIEBERMAN, Benjamin
15:40	[88] An alternative explanation of the multi-lepton anomalies at the LHC	MULAUDZI, Anza-Tshilidzi
16:00	[111] Feasibility Study to Search for Additional Scalars at Future $e^+e^-$ Colliders	Mr MOSALA, Karabo
16:20	[112] Searching for Low-Mass Resonances Decaying into W Bosons	Dr BHATTACHARYA, Srimoy
16:40	[365] Division Meeting: Nuclear, Particle and Radiation Physics	Dr DONALDSON, Lindsay NKADIMENG, Edward

# Thursday 06 July 2023

## Nuclear, Particle and Radiation Physics (09:40-10:40)

-Conveners: Peane Maleka

time	[id] title	presenter
09:40	[181] Ra-226 on the deterioration crosswalk speed bumps of rural and township ships road in Vhembe region, Limpopo Province.	Dr FHULUFHELO, Nemangwele
10:00	[293] In situ radionuclide analysis at a rehabilitated contamination site using a mobile gamma-ray detection unit equipped with a LaBr <sub>3</sub> :Ce detector	VAN NIEKERK, Ferdie
10:20	[16] Health Risk Assessment of Toxic Heavy Metals in Irrigation Water, Rustenburg	Dr OLAGBAJU, Peter Oluwadamilare

## Nuclear, Particle and Radiation Physics (11:00-12:00)

-Conveners: Pete Jones

time	[id] title	presenter
11:00	[19] The Decline and Fall of Nuclear $\beta$ - and $\gamma$ -Vibrations	SHARPEY-SCHAFFER, John
11:20	[313] Machine Learning-based Gamma Spectroscopy with Multi-Spectral Tracking	Mr BUCKTON, Calib
11:40	[96] Management of High-Level Radioactive Waste in South Africa	Dr BVUMBI, Suzan

## Nuclear, Particle and Radiation Physics (14:00-15:20)

-Conveners: Salah-eddine Dahbi

time	[id] title	presenter
14:00	[94] Measurement of the top quark Yukawa coupling from tt kinematic distributions in the dilepton final state	GARVEY, Cameron
14:20	[79] Searches for high-mass resonances in the $Z\gamma$ decay mode in Run-2 proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector with the integrated luminosity of 139 fb <sup>-1</sup>	RAPHEEHA, Phuti Ntsoko
14:40	[201] Operations of the ATLAS Hadronic Tile-Calorimeter	MCKENZIE, Ryan
15:00	[182] Recent Progress in the South African contribution to the ATLAS Tile Calorimeter Phase-II Upgrade at CERN	NKADIMENG, Edward

# Friday 07 July 2023

## Nuclear, Particle and Radiation Physics (09:40-10:40)

-Conveners: Suzan Bvumbi

time	[id] title	presenter
09:40	[130] Analysis of Trace Elements in Some Traditional Medicinal Plants and Developing Nuclear Forensic Signature	ASRES, Yihunie H.
10:00	[132] Application of IAEA Radio-Photoluminescence Glass Dosimeter for Radiation dose monitoring	Prof. MATHUTHU, Manny
10:20	[325] Refurbishment of the SK solenoid magnetic lens spectrometer at iThemba LABS	CHISAPI, Maluba Vernon

## Nuclear, Particle and Radiation Physics (11:00-12:20)

-Conveners: Edward Nkadameng

time	[id] title	presenter
11:00	[189] Update on the multi-lepton anomalies and scalar candidates at the LHC	MELLADO, Bruce DAHBI, Salah-eddine
11:20	[138] Extraction of the Top Quark Yukawa Coupling	MITCHELL, James
11:40	[253] Investigating the excess of two same-sign and three lepton final states via four top quark production	MATHAHA, Thuso
12:00	[118] $W$ -boson mass in beyond the standard model	MULAUDZI, Anza-Tshilidzi