



## SAIP2017

## Wednesday 05 July 2017

**Poster Session 2: Education, Nuclear, Photonics, Condensed Matter - 3rd and 4th floor passages (17:10-19:00)**

-Conveners: Andrew Forbes; Simon Mullins; Sam Ramaila; Japie Engelbrecht

[id]	title	presenter	board
[265]	Brillouin scattering study on the opto-acoustic anisotropy of SrF <sub>3</sub>	Mr DUBE, Hlosani	01
[271]	Brillouin scattering study on the opto-acoustic anisotropy of SrF <sub>3</sub>	DUBE, Hlosani	02
[284]	Effect of Cr <sup>3+</sup> doping on structural, electronic and optical property of ZnGa <sub>2</sub> O <sub>4</sub> for bio imaging application	Mr HUSSEN, megersa kasim	03
[287]	Nanostructures growth on c-Si substrate by thermal dewetting of Pd and Al thin films	Ms MASENYA, Mamogo	04
[288]	Effect of growth temperature on the structural, optical and luminescence properties of cadmium telluride nanoparticles	Ms KIPROTICH, Sharon	05
[290]	Mechanical properties and temperature dependence of B <sub>19</sub> Ti <sub>50-x</sub> Zr <sub>x</sub> Pt <sub>50</sub> shape memory alloys	Mr MASHAMAITE, Mordecai	06
[293]	Investigation of magnetic, morphological, structural, stability and optical properties of Ce <sup>3+</sup> and Cu <sup>2+</sup> co-doping in ZnO.	Ms MULWA, WINFRED MUENI	07
[299]	Investigation of defects in sputter deposition deposited Schottky barrier diodes on epitaxial GaAs by Laplace DLTS	Ms TAGHIZADEH, Fatemeh	09
[300]	Influence of pH value on the material properties of the ZnO nanostructures using various solvents at constant temperature	Prof. DEJENE, Francis	10
[302]	The effect of annealing temperature on the structure and luminescence of Zn <sub>2</sub> V <sub>2</sub> O <sub>7</sub> prepared by sol-gel method	Prof. DEJENE, Francis	11
[307]	Structure-property correlation of thin films for energy applications	Mr SHNIER, Adam	12
[308]	Influence of oxygen partial pressures on the structural and luminescence properties of pulsed laser deposited (Y-Gd) <sub>3</sub> Al <sub>5</sub> O <sub>12</sub> :Ce <sup>3+</sup> thin films	Mr KORIR, PETER CHERUIYOT	13
[318]	The effect of sample purity on the charge density wave compound TiSe <sub>2</sub>	Ms VAN NIEKERK, Chani	14
[321]	Lanthanum phosphovanadate phosphors: Effect of terbium concentration	Mr MOTLOUNG, Selepe Joel	15
[323]	Synthesis and Characterization of Cadmium Selenide Quantum Dots	Ms MAKINANA, Sinovuyo	16
[327]	Interaction of tungsten (W) film with glassy carbon	Mr INNOCENT, Audu	17
[329]	STRUCTURAL AND RAMAN SPECTROSCOPIC CHARACTERIZATION OF C-TIO <sub>2</sub> NANOTUBES SYNTHESIZED BY TEMPLATE-ASSISTED SOL-GEL TECHNIQUE.	Ms TAKATA, Nwabisa	18
[335]	Effects of irradiation energy and fluence on the optical absorbance of silver implanted amorphous carbon thin films	Mr ISMAILA, Abdulsalam Dr CUMMINGS, Franscious Prof. NAIDOO, Shunmugan, R	19
[340]	Stability of transition metal nitrogen and boron defect complexes in diamond	Mr NYANDORO, Brian	20

[341] Growth & characterisation of diamond films in magnetron sputtering by spin coating	Ms CHONCO, NP	21
[363] Characterization of defects in BaF <sub>2</sub> using positron annihilation and XRD techniques	JILI, Thulani	22
[380] Computational modelling studies of O <sub>2</sub> /Pt surface for fuel-cell application	Prof. CHAUKE, Hasani	23
[387] The role of the pre-exponential factor in the segregation profiles of Cu(111)-SnSb and Cu(100)-SnSb ternary alloys	Prof. ASANTE, Joseph	24
[388] <b>Structural and thermodynamic properties of Zr-Nb-Co</b>	Mr MALEBATI, Magoja	25
[390] Structural, Morphological and Confocal Raman Spectroscopy characterization of titanium dioxide nanotubes on functional substrates	Mr ZINYA, Simcelile	26
[397] The study on the synthesis and deposition parameters of metal doped-ZnO thin films for applications in inverted organic solar cells	Ms MENZI, Luleka	27
[398] STRUCTURAL AND OPTICAL PROPERTIES OF BIOSYNTHESIZED ZINC OXIDE NANOPARTICLES	Ms SINTWA, Nolufundo	28
[399] Bias-enhanced nucleation and growth for improving the opto-mechanical properties of diamond-like carbon films	Dr WAMWANGI, Daniel Dr BHEKUMUSA, Mathe	29
[401] Luminescent, Structural and Morphological studies of a green-emitting BaB <sub>8</sub> O <sub>13</sub> : Ce <sup>3+</sup> phosphors	Ms LEPHOTO, Mantwa Annah	30
[402] Dopping effect on tin oxide nanostructures and gas sensing ability	Mr THETHWAYO, Charles Thulani	31
[403] Structural characterization of polyaniline thin films doped by Ag <sup>+</sup> ion implantation	Mr MOKOENA, Jimmy	32
[405] Characterization of Al <sub>x</sub> Ga <sub>1-x</sub> As by FTIR Spectroscopy	Dr HASHE, Nobom	33
[406] Predicting the Mo dopant induced electrical levels in Ge	Dr IGUMBOR, Emmanuel	34
[407] Analysis of temperature dependent I-V characteristics of Pd/n-4HSiC Schottky barrier diodes and the determination of the Richardson constant in a wide temperature range	Mr TUNHUMA, Shandirai	35
[440] TiO <sub>2</sub> Nanorods Formation Mechanism on Ti Foil Substrate by Gel-Oxidation Method	Mr MBULANGA, Crispin	36
[21] INVESTIGATING DIFFUSION OF XENON IMPLANTED GLASSY CARBON	Mr ISMAIL, Mahjoub	37
[78] Lambda-neutron potential through fixed-angular-momentum inversion	MEOTO, Emile	38
[91] The influence of neutron radiation damage on the optical properties of polystyrene based scintillator UPS 923A	Mr MTHEMBU, Skhathisomusa	39
[98] CHARACTERIZATION OF URANIUM-THORIUM WASTE	Ms MUROVHI, Phathutshedzo	40
[117] Performance of various event generators in describing multijet final states at the LHC	Mr VON BUDDENBROCK, Stefan	41
[149] Study of Excited 0 <sup>+</sup> States via Electron Spectroscopy	Mr ZIKHALI, Bonginkosi	42
[152] Searching for the low-energy enhancement in 91-Zr	Mr ZIKHALI, Bonginkosi	43
[155] Investigating the candidate 5-alpha cluster state at 22.5 MeV with the (p,t) and (p,3He)	Ms BALOYI, Lerato	44
[182] Analysis of the <sup>150</sup> Sm(4He,2n) <sup>152</sup> Gd data taken with the AFRODITE spectrometer	Mr NETSHIYA, ADIVHAHO	45

[207] Measurement of the visible cross sections for proton-proton collisions at 13 TeV with ALICE at the LHC	Ms MHLANGA, sibaliso	46
[229] Coupling of single neutron configuration to collective core excitations in <sup>162</sup> Yb using <sup>163</sup> Yb	Mr SITHOLE, Makuhane	47
[256] Coupling of single neutron and proton configurations to collective core excitations in <sup>162</sup> Yb.	Mr MDLETSHE, Linda	48
[257] Chilarity in <sup>193</sup> Tl	Dr NDAYISHIMYE, Joram	49
[260] Characterization of the iThemba LABS segmented clover detector for gamma-ray tracking	Mr XOLANI, Wiseman	50
[268] LaBr <sub>3</sub> detector array for fast timing measurements	Mr LUMKILE, Msebi	51
[270] Firmware development of the ALICE MID readout card at the LHC	Mr BOYLES, Nathan	52
[282] Fine structure of the Isoscalar Giant Monopole Resonance for <sup>24</sup> Mg, <sup>58</sup> Ni and <sup>90</sup> Zr using 200 MeV $\alpha$ -particle inelastic scattering at zero-degrees	Ms MOODLEY, Chané Simone	53
[315] (p,t) reactions on Barium isotopes and neutrinoless double beta decay.	NZOBADILA ONDZE, Jespere Calderone	54
[369] Neutron Capture Cross Sections of S-process Branch-Point Nuclei	Dr KHESWA, Bonginkosi	55
[67] Hybrid Poincare beams from the source	Ms SROOR, Hend	56
[114] Energy-efficient Bessel beams	Ms MPHUTHI, Nokwazi Purity	57
[122] A spatial ptychographic phase retrieval algorithm for microscopic implementation in the NIR	Ms ERASMUS, Anneke	58
[147] Experimental realisation of a magneto optical trap of Rb-85 – cold atoms	Dr ISMAIL, Yaseera	59
[151] High dimensional quantum key distribution with vector modes	Mr NAPE, Isaac	60
[157] Characterization of the spectral irradiance measurement setup	Mr MKABELA, Macdufe	61
[158] Fusion Splicing of Double-Clad Large Mode Area Fibres for Fabrication of High Power Fibre Laser	Ms KGOMO, Mosima	62
[165] Double Helix Point Spread Function, A fluorescence microscopy technique	Ms HOLINIRINA DINA MIORA, Ratsimandresy	63
[187] Simulating Real Space Changes in Cu(DCNQI) <sub>2</sub> Using Ultrafast Electron Diffraction Data	Mr SMIT, Bart Ms PAYNE, Nancy	64
[215] Analysis and Performance of a closed loop external cavity diode laser control system	Mr OPEOLU, Victory	65
[224] Infrastructure development for single beam Coherent Anti-Stokes Raman Spectroscopy	Mr VILJOEN, Ruan	66
[226] Characterisation of sol-gel fabricated p-NiO/n-ZnO heterojunction	Mr MWAKEMWA, Bernard Dr NEL, Jacqueline Mr AKINKUADE, Shadrach Prof. MEYER, Walter	67
[238] Introduction to ellipsometry with a focus on use with terahertz time-domain spectroscopy	Mr SMITH, Shane	68
[239] Controlling the spatial distribution of multiplexed modes	Mr MAHONISI, Nyiku	69
[241] Synthesis and characterization of Ce <sup>3+</sup> doped NaMPO <sub>4</sub> (M= Mg, Ca, Sr and Ba) phosphors	Ms MALEKA, Prettier Morongoa	70

<b>[251] Microstructural, Photoluminescence and Raman properties of highly Cu doped ZnO nanorods.</b>	Mr MWANKEMWA, Benard Dr NEL, Jackie Prof. DIALE, Mmantsae Mr AKINKUADE, Shadrach	71
<b>[263] Wide field fluorescence microscopy of single nanoparticles</b>	Ms SIBANDA, Charmaine	72
<b>[278] A Versatile Setup for Resonant Ionisation Spectroscopy of Atomic Species</b>	Mr HATTINGH, Brandon	73
<b>[289] Investigating the insulator-metal phase transition in organic Cu(DCNQI)<sub>2</sub> salts by Ultrafast Electron Diffraction</b>	Mr SMIT, Bart Ms PAYNE, Nancy	74
<b>[330] Effect of Sm doping on the structural and optical properties of ZnO nanorods grown by chemical bath deposition</b>	Mr AHMED, MUSTAFA	75
<b>[337] A semi-classical and quantum mechanical analysis of Four-Wave-Mixing in an ensemble of Rubidium atoms</b>	Dr GOVENDER, Kessie Ms PATEL, Meena	76
<b>[342] Resonant Ionisation Spectroscopy with Time-of-Flight mass detection</b>	Mr WASO, Frederick	77
<b>[373] Shaping light with a mid-IR spatial light modulator</b>	Mr GAILELE, Lucas	78
<b>[394] Preparation and evaluation of NIR up-converting ZnTiO<sub>3</sub>:Er<sup>3+</sup> nanophosphor prepared by conventional solid state reaction.</b>	Mr MOFOKENG, Sefako John	79
<b>[13] The Efficacy of Computer-Based Laboratory Experiments</b>	Mr THEBE, Mohapi	80
<b>[17] First year university physics students' understanding of units and measurements</b>	Dr REDDY, Leelakrishna	81
<b>[18] First year university physics students' perceptions of instructional methods</b>	Dr REDDY, Leelakrishna	82
<b>[19] Assessment of physics practicals using a technology-aided system</b>	Dr REDDY, Leelakrishna	83
<b>[20] Soweto Science Centre as a flagship community engagement initiative</b>	Dr REDDY, Leelakrishna	84
<b>[184] Surveying the influence tests have on students' attitude towards physics and learning of physics</b>	Mr BASSAW, GIDEON STEPHEN	85
<b>[476] Extensions of THERMUS and its Applications in High Energy Particle collisions</b>	Dr WORKU, DAWIT	86