

SAIP2016

Tuesday 05 July 2016

Poster Session (1): Physics of Condensed Matter and Materials; Nuclear, Particle and Radiation Physics; Physics Education
(16:10-18:00)

-Conveners: Sam Ramaila; Simon Mullins; Japie Engelbrecht

[id]	title	presenter	board
[3]	Problems with the calculation of the refractive index of $\text{In}_{1-x}\text{Ga}_x\text{As}$	Prof. ENGELBRECHT, Japie	A.003
[9]	Ab initio study of transition metals impurities and stability of complexes in Ge.	Mr IGUMBOR, Emmanuel	A.009
[23]	The effects of Cd^{2+} concentration on the structure, optical and luminescence properties of MgAl_2O_4 :x% Cd^{2+} nanophosphor prepared by sol-gel method	Dr MOTLOUNG, Setumo Victor	A.023
[33]	Synthesize and characterisation of optical properties of a down-converting Y_2O_3 phosphor co-doped with Bi^{3+} and Yb^{3+} .	Mr LEE, Edward	A.033
[40]	$\text{Ce}_{1-x}\text{La}_x\text{Cu}_4\text{Al}$ as a case study for the investigation of Ce 4 <i>f</i> wave function evolution from a coherent to a local Kondo effect	Dr CARLESCHI, Emanuela	A.040
[46]	Effect of pressure on the nanostructured of TiO_2 during recrystallisation	Mr PHAAHLA, Tshegofatso Michael	A.046
[49]	Phase Stability Study of Nickel Doped Spinel LiMn_2O_4 Using Cluster Expansion Method	Mr MALATJI, kemeridge Tumelo	A.049
[56]	Effect of annealing temperature on LiMn_2O_4 nanostructures prepared by chemical bath method	Mr KOAO, Lehlohonolo	A.056
[57]	Thermoluminescence investigation of Sm^{3+} activated NaSrBO_3 phosphors for gamma dosimetry.	Dr BEDYAL, Ankush Kumar	A.057
[69]	Blue-yellow luminescence of Eu-doped CaSnO_3 nanopowders synthesized by the sol-gel autocombustion process	Prof. DEJENE, F. Birhanu Dr YIHUNIE, Moges Tsega	A.069
[73]	van Hove singularities in $\text{Sr}_3\text{Ru}_2\text{O}_7$	Ms TSUEN, Jessica	A.073
[76]	First-principle study of $\text{Ti}_{50-x}\text{Pt}_{50}\text{Zr}_x$ High temperature shape memory alloys	Mr MASHAMAITE, Mordecai	A.076
[80]	Structure and luminescence of sol-gel spin coated ZnO films	Mr HASABELDAIM, Emad	A.080
[85]	Precise visualisation of dispersive low-energy features in ARPES spectra	Ms VAN NIEKERK, Chani	A.085
[96]	Molecular dynamics studies of Lithium intercalation into amorphous structure of Titanium dioxide (TiO_2) nanoparticle	Dr MATSHABA, Malili	A.096
[101]	Pulsed laser deposited $\text{KY}_3\text{F}_{10}:\text{Ho}^{3+}$ phosphor thin films	Mr DEBELO, Nebiyu	A.101
[142]	Density Functional Theory study of stability of rutile MnO_2 , VO_2 and TiO_2	Ms MAENETJA, Khomotso	A.142
[143]	Density functional theory study of PtS surfaces	Ms MASENYA, Mamogo	A.143
[156]	Computer simulation studies of spinel LiMn_2O_4 surfaces	Mr TSHWANE, David Magolego	A.156

[174] Pick-off annihilation of delocalized positronium in BaF ₂ at elevated temperatures	JILI, Thulani	A.174
[188] Effect of Eu ³⁺ ion concentration on phase transition, site symmetry and quantum efficiency of ZrO ₂ nanocrystal rods	Dr AHMEN, Iorkyaa	A.188
[191] Magnetic properties of Cr +2.9 at.% Al thin films	Ms MUDAU, patience	A.191
[203] Development of Metal-flux based Crystal-growth Facility	Ms SONDEZI, Buyi	A.203
[207] Role of swift heavy ion irradiation on structural and magnetic properties of Ti _{0.95} Co _{0.05} O _{2-δ} epitaxial thin films	Dr MOHANTY, PANKAJ	A.207
[222] Surface Brillouin scattering studies of VC thin films deposited on SiC	Mr JAKATA, Kudakwashe	A.222
[253] Magnetic and Kondo behaviour in Ce ₈ Pd ₂₄ (Al _{1-x} Sn _x)	Prof. TCHOULA TCHOKONTE, Moise Bertin	A.253
[258] Interplay of antiferromagnetic and Kondo effect in Ce ₈ Pd ₂₄ Al	Mr BASHIR, Aiman	A.258
[259] Characterization of Complex Spinel LiMn ₂ O ₄ Nanosheet Simulated via Armorphization and Recrystallization Technique	Ms LEDWABA, Raesibe Sylvia	A.259
[291] Measurement of the surface potential of AlGaAs/GaAs heterostructures using Kelvin Probe Force Microscopy	Mr KAMENI BOUMENOU, Christian	A.291
[293] Sol-gel synthesis of Zn ₂ SiO ₄ :Mn ²⁺ phosphors and the effect of rare-earth ions co-doping on their photoluminescence	Dr MBULE, Pontsho Sylvia	A.293
[294] Preparation of organically modified Vermiculite and calculation of intercalation energies of polymers into both unmodified and organically modified Vermiculite	Mr PHALA, Michael Feredi	A.294
[295] Molecular dynamics simulations of the interactions between water molecules and sulphide nanoparticles	Dr MEHLAPE, Mofuti	A.295
[303] High energy electron irradiation influence on the Schottky barrier height and the Richardson constant on Pd/ZnO Schottky barrier diodes	Mr MAYIMELE, Meehleketso Advice	A.303
[305] Optimisation of spin-coating parameters for fabrication of thin film polyaniline-based nuclear radiation sensors	Mr MOKOEAN, Jimmy	A.305
[312] Down-conversion process in Dy ³⁺ , Yb ³⁺ co-doped TiO ₂ nanophosphor powder	Mr MOKOENA, Mpho S	A.312
[314] The Bottom-up synthesis and characterization of molybdenum dichalcogenide nanomaterials for applications in supercapacitors	Mr NDALA, Zakhele	A.314
[322] Thermal stability of titanium Schottky contacts and defects introduced in epitaxial p-Si	Ms DANGA, Helga Tariro	A.322
[325] Structural prediction of β-MnO ₂ nanoclusters using global search techniques	Mr MASOGA, Phala	A.325
[332] Effects of precursor concentration on morphological, structure and optical properties of TiO ₂ synthesised via sol-gel method	Prof. DEJENE, Francis	A.332
[337] Effect of annealing temperature on the structure, morphology and optical properties of Sm ³⁺ doped lanthanum phosphovanadate	Dr TSHABALALA, Kamohelo George	A.337
[347] Effect of refluxing growth time on structural, optical and luminescence properties of zinc telluride Quantum dots	Ms KIPROTICH, Sharon	A.347
[351] Effect of different synthesis methods on structure, morphology and magnetic properties of CoFe ₂ O ₄ nanoparticles	Dr OSMAN, Nadir	A.351
[365] High temperature and phase transformation studies of Pt ₃ Al compounds	Ms MKHONTO, CHRESTINAH	A.365

[382] Effects of doping ratio on structural, luminescence and transmittance properties of Ga-Doped ZnO nanoparticles by precipitation reflux method	Mr UNGULA, Jatani	A.382
[389] Influence of Hexamethylenetetramine on the Low Temperature Chemical Bath Deposited ZnO Nanorods	Mr MWANKEMWA, Benard Saamwel	A.389
[393] Beneficial effects of Cobalt on ZrNb alloy using density functional theory and virtual crystal approximation.	Mr MALEBATI, Magoja Martinus	A.393
[396] Microwave-assisted method derived ZnO nanostructures with various morphologies: Effect of pH on PL, magnetic and sensing properties.	Ms SHINGANGE, Katekani	A.396
[407] Simulating Iron Oxide Nanoparticle Oscillations in different Electric Fields.	Dr HARRIS, Richard	A.407
[414] The Effect of Annealing Temperature on the Sensitivity and Selectivity of TiO ₂ base Gas Sensors	Ms TSHABALALA, Zamaswazi	A.414
[433] Iron (III) Oxide Nanostructured Thin Films Based Selective Solar Absorber for Concentrating Solar Power Application	Mr MBONGO, Mduduzi	A.433
[437] Spectroscopic investigation of charge and energy transfer in P3HT/GO nanocomposites	Mr MOLEFE, Fokotsa	A.437
[447] Synthesis and characterization of gold nanoparticles and their functionalization using dodecanethiol	Mr SHUMBULA, Ndivhuwo	A.447
[450] Characterisation of the optical properties of silver nanoparticles (Ag NPs) for use in the enhancement of the performance of an organic photovoltaic (OPV) device.	Dr KIRUI, Joseph Mr BALOYI, Kenneth Mr JHAMBABA, Lordwell	A.450
[469] Growth and characterization of RuO ₂ thin films nanostructures	Ms CHONCO, Nelisiwe	A.469
[472] Enhanced photoluminescence emission from Dy ³⁺ and Tb ³⁺ activated lanthanum phosphovanadate	Mr MOTLOUNG, Selepe Joel	A.472
[485] Identification of a third stable state associated with E3 center in GaAs.	Ms TAGHIZADEH, Fatemeh	A.485
[486] Application of uniaxial stress with Laplace DLTS as a structure sensitive characterization technique.	Mr OSTVAR, Kian	A.486
[510] Commissioning of a Molecular Beam Epitaxy (MBE) system for III-V semiconductor growth	Prof. THERON, Chris	A.510
[14] Evaluation of Fission Energy Deposition in the SAFARI-I Nuclear Reactor	Mrs JURBANDAM, Linina	B.014
[63] Investigating the Gamma-Ray Strength Function in ⁷⁴ Ge using the Ratio Method	Mr SOWAZI, Khanyisa	B.063
[118] Estimation of non-prompt fake muon background in scattering of two massive vector bosons (VBS), $W W \rightarrow W W$.	Mr MCCONNELL, Lucas	B.118
[161] Measurement of the first $\frac{1}{2}^{+}$ state in $^{9}_{B^{*}}$	Mr MUKWEVHO, ndinannyi justice	B.161
[164] Determination of spectroscopic quadrupole moment of the first excited state in ³² S.	Mr MAVELA, Lihleli	B.164
[179] Disentangling second-order effects in Coulomb Excitation Theory: (Reorientation and Nuclear Polarizability Effects)	Mr AKAKPO, Elijah	B.179
[190] Neutron irradiation and damage assessment of plastic scintillators of the TILECAL section of the ATLAS detector.	Ms MDHLULI, Joyful	B.190
[212] Estimation of the fake rate background in same sign $W^{+}W^{+}$ production at the LHC with ATLAS Detector	Ms THUSINI, Xolisile	B.212

[226] The $\frac{1}{2}^{+} \rightarrow \frac{1}{2}^{+}$ branch in ^{19}Ne β^{-} -decay	Ms MABIKA, Phumzile Zandile	B.226
[278] Particle and gamma decay studies: an update on the K600	Dr NEVELING, Retief	B.278
[286] Optimizing the 90 degree scattering setup for determining the coordinates of the interaction points inside the iThemba LABS segmented clover detector.	Mr EASTON, Jayson	B.286
[301] Zig zag of quadrupole shapes in sd-shell	Mr ABRAHAMS, Kenzo	B.301
[364] Novel method to make a calibrated thoron source	Mr ELHAG, Elmughera	B.364
[403] The Spectroscopy of ^{162}Hf at Low and High Spins	Ms KHUMALO, Nontobeko	B.403
[418] Fine structure of the Isoscalar Giant Monopole Resonance in ^{208}Pb , ^{90}Zr , ^{58}Ni and ^{40}Ca using medium energy Alpha-particle Scattering at Zero Degree	Mr BOTHA, Nolan	B.418
[426] Orientation of the Ge Crystals of the iThemba LABS Segmented Clover Detector	Dr DINOKO, Tshepo	B.426
[480] Feasibility Study of Electron Source Production at iThemba LABS	Ms LORRAINE, Tebogo	B.480
[496] Crystal orientation of the iThemba LABS segmented clover detector	Mr NONCOLELA, Sive	B.496
[497] spectroscopy of proton unbound states in ^{32}Cl for nuclear structure and astrophysical studies.	Mr KAMIL, mohamed	B.497
[30] University physics students' perceptions of teaching methods	Dr RAMAILA, Sam	E.030
[31] Self-efficacy beliefs of physical science teachers	Dr RAMAILA, Sam	E.031
[32] University science students' self-efficacy – A case of physics learning	Dr RAMAILA, Sam	E.032
[466] Physics of the artisanal mining of sandstones in a rural community	Prof. ANTOINE F., Mulaba-Bafubiandi	E.466
[501] Astronomy for Teachers Update: Teaching the Strand Planet Earth and Beyond in Primary School Natural Science	Prof. LEEUW, Lerothodi	E.501