# CURRICULUM VITAE

## Majola, Siyabonga Ntokozo Thandoluhle


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| Surname: | Majola |
| First Names: | Siyabonga Ntokozo Thandoluhle |
| Title: | Dr |
| Identity Number: | 8702165696082 |
| Date of Birth: | 16 February 1987 |
| Nationality: | South African |
| Gender: | Male |
| Race: | African |
| Driver's License: | Code 8 |
| Home Language: | Zulu |
| Official Language: | English |
| Other Languages: | isiXhosa |


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## EDUCATION AND QUALIFATION STATUS

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| Institution: | University of Cape Town |
| Qualification: | PhD (Nuclear Physics) |
| Year of Completion: | 2015 |

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| Institution: | University of Cape Town |
| Qualification: | MSc (Nuclear Physics) |
| Year of Completion: | 2011 |

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| Institution: | University of Zululand |
| Qualification: | BSc Hons. (Physics) |
| Year of Completion: | 2009 |

## TEACHING AND RESEARCH EXPERIENCE

*June 2016 – to date:* ***Research Fellow/ Lecturer***
*(Universities of Johannesburg, Zululand, Stellenbosch and iThemba LABS)*

**Achievements**

- Currently teaching undergraduate physics modules (Mechanics, Nuclear Physics, Thermodynamics, Electricity and Magnetism), supervision of postgraduate students and research.

- Taught Introduction to Nuclear Physics (3rd year module) and Physics for Consumer Science Students (1st year module).

- Developed own research programs on the "Investigation of low-lying collective states in the transitional rare earth region".

- Successfully trained eight MSc students to completion who were registered at the Universities of Western Cape, Zululand and Johannesburg. Currently supervising and co-supervising 4 PhD students. Six of the 8 candidates completed their MSc projects in record time and have proceeded to do their PhDs.

- Has published more than 20 research papers in high impact peer-reviewed journals (such as Physical Review C, European Physical Journal A and Physics Review letters) and 15 peer-reviewed conference proceedings and has a Google scholar h-index of 8 citations.

- Recently invited to join one of the leading nuclear physics journals, namely the European Physical Journal A (EPJA), as a reviewer.

- Recently published a "**review**" article {EPJA 55: 15 (2019)} they recently (2019) at the "invitation" of the European Physical Journal

## TEACHING AND RESEARCH EXPERIENCE (Continued……)

**Achievements**

- Wrote a research proposal to seek funding and running time to do experiments and received a University Research grant amounting close to R50 000 (year 2018).

- Played a role in the initiation and success of the GAMKA project, which is facility upgrade at iThemba LABS that was recently awarded R30 000 000 – one of the biggest grants to be awarded by the NRF (2018).

- Evaluated postgraduate research proposals and theses/dissertations.

- Analysed complex experimental Nuclear physics data using the state-of-the-art analysis software package called "MTsort".

- Published and presented experimental results in numerous workshops, conferences and reputable peer reviewed scientific journal(s) and/or conference proceedings – some of which are listed below.

- Involved in the maintenance of radiation detectors (i.e. High-purity germaniums) commonly used in Nuclear spectroscopic studies.

- Led in the experimental setup of experiments for postgraduate students as well as local and international collaborators.

**TEACHING AND RESEARCH EXPERIENCE (Continued……)**

*January 2012 – May 2016:* ***Junior Research Scientist***
*(iThemba LABS)*

**Achievements**

- Assisted the User community of the iThemba LABS facility to setup and perform Nuclear Physics experiments. Involved in the maintenance of radiation detectors commonly used in Nuclear spectroscopic studies such as Germanium, LaBr3:Ce and Silicon detectors.

- Took part in the development of international research projects and networks (with local and international collaborators), which complement and enhance the research carried out by the Nuclear Structure group at iThemba LABS.

- Took part in the analysis of complex experimental Nuclear data, which has since been published and presented in numerous workshops, conferences and reputable peer reviewed scientific journal(s) and/or conference proceedings – see the list below.

- Coordinated a postgraduate training programme.

- Participated in community outreach programmes organized by iThemba LABS (in collaboration with SAASTA) and the South African Young Nuclear Professional Society.

- Authored and co-authored numerous publication respectable peer review journal – please see the track record in the following section.

**TEACHING AND RESEARCH EXPERIENCE (Continued……)**

**Achievements**

- Over the past 5-10 years he has had the privilege to be invited to partake in various physics experiments and gatherings in some of the Leading Institutes in Europe (Finland, Hungary and Russia), China and the United States of America.

- In 2015, he was approached by the NRF to organize and facilitate Science Communication workshops for NRF/DST interns in Western Cape (iThemba LABS) and Eastern Cape (University of Fort-Hare). According to evaluation forms and NRF representatives, both workshops were a success.

- Awarded the NRF Scarce Skills Post-Doctoral Fellowship (2015).

- Awarded the DST-NRF Research Professional Development Programme scholarship (2012).

- Played a major role in the re-establishment of a community outreach programme called "Abafundi", which aimed to improve the performance of Grade 12 learners in science subjects. The programme is still intact but is now under a different name (2012-16).

## LIST OF SELECTED PUBLICATIONS/RESEARCH OUTPUTS

**Selected research outputs/publications: Articles in Refereed/Peer-reviewed journals**

- ***New collective structures in the $^{163}$Yb nucleus***

M.A. Sithole, J.F. Sharpey Schafer, **S.N.T. Majola**, T.D. Bucher, T.R.S. Dinoko, S.S. Ntshangase, E.A. Lawrie, N.A. Khumalo1, S. Jongile, L. Mdletshe, R.A. Bark, N. Erasmus, P. Jones, B. V. Kheswa, J.J. Lawrie, L. Makhathini, K.L. Malatji, B. Maqabuka, S.P. Noncolela, J. Ndayishimye, O. Shirinda B.R. Zikhali, P.L. Masiteng
***Accepted in EUROPEAN PHYSCAL JOURNAL (2019)***

- ***Competition of rotation around the intermediate and long axes in $^{193}$Tl***

J. Ndayishimye, E. A. Lawrie, O. Shirinda, J. L. Easton, J. J. Lawrie, S. M. Wyngaardt, R. A. Bark, S. P. Bvumbi, T. R. S. Dinoko, P. Jones, N. Y. Kheswa**, S. N. T. Majola**, P. L. Masiteng, D. Negi, J. N. Orce,P. Papka, J. F. Sharpey-Schafer,and M. Wiedeking
*Accepted in* ***PHYSICAL REVIEW C (July 2019)***

- ***Nuclear level densities and gamma-ray strength functions of $^{180,181,182}$Ta***

C.P. Brits, K.L. Malatji, M. Wiedeking, B.V. Kheswa, S. Goriely, F.L. Bello Garrote, D.L. Bleuel, F. Giacoppo, A. Gorgen, M. Guttormsen, K. Hadynska-Klek, T.W. Hagen, S. Hilaire, V.W. Ingeberg, H. Jui, M. Klintefjord, A.C. Larsen, **S.N.T. Majola**, P. Papka, S. Peru, B. Qi, T. Renstrom, S.J. Rose, E. Sahin, S. Siem, G.M. Tveten, F. Zeiser
***Published in PHYSICAL REVIEW C 99, 054330 (2019)***
https://journals.aps.org/prc/abstract/10.1103/PhysRevC.99.054330

- ***Spectroscopy of low spin states in $^{157}$Dy: Search for evidence of enhanced octupole correlations***

**S. N. T. Majola**, R. A. Bark, J.F. Sharpey-Schafer, L.L. Riedinger, D. J. Hartley, S. Bvumbi, Curien, P.E. Garrett, P. M. Jones, L. Bianco, D. M. Cullen, D. Curien, P. E. Garrett, P. T. Greenlees, J. Hirvonen, U. Jakobsson, R. Julin, S. Juutinen, S. Ketelhut, A. Korichi, M. Leino, A. Minkova, P. Nieminen, P. Peura, P. Rahkila, M. Riley, L. L. Riedinger, P. Ruotsalainen, J. Saren, C. Scholey, J. Sorri, S. Stolze, J. Timar, and J. Uusitalo
***Submitted in PHYSICAL REVIEW C - (April 2019)***

- ***"Stiff" Deformed Nuclei, Configuration Dependent Pairing and the β and γ Degrees of Freedom" (This is a review paper that we wrote at the behest of the European Physical Journal editorial team)***

J. F. Sharpey-Schafer, R. A. Bark, S. P. Bvumbi, T. R. S. Dinoko, **S. N. T. Majola**
***Published in EUROPEAN PHYSCAL JOURNAL A (2019) 55: 15***

**PUBLICATIONS/RESEARCH OUTPUTS (continued……..)**

- ***Systematics of β and γ bands in even-even N = 88, 90, 92 isotones investigated with a five-dimensional collective Hamiltonian based on covariant density functional theory***

**S. N. T. Majola**, Z. Shi, B. Y. Song, R. A. Bark, Z. P. Li, S. Q. Zhang, J. F. Sharpey-Schafer, D. Aschman, S. P Bvumbi, T. S. Dinoko, J. E. Easton, P. Jones, S. Jongile, E. A. Lawrie, J. J. Lawrie, B. V. Kheswa, N. A. Khumalo, T. E. Madiba, L. Makhathini, S. M. Maliage, P. I. Mashita, L. P. Masiteng, L. Mdletshe, L. Msebi, S. M. Mullins, S. S. Ntshangase, P. Papka, D. G. Roux, O. Shirinda, M. A. Sithole, M. Stankiewicz, M. Wiedeking,and G. L. Zimba,
***PHYSICAL REVIEW C - Accepted (September 2018)***

- ***Quasiparticle and γ-band structures in $^{156}$Dy***

S. Jehangir, G.H. Bhat, J.A. Sheikh, S. Frauendorf, **S.N.T. Majola**, P.A. Ganai and J.F. Sharpey-Schafer.
***Published in PHYSICAL REVIEW C 97, 014310 (2018)***
https://journals.aps.org/prc/abstract/10.1103/PhysRevC.97.014310

- ***Low-lying positive parity bands in $^{162}$Yb***

L. Mdletshe, S. S. Ntshangase, J. F. Sharpey-Schafer, **S. N. T. Majola**, T. R. S. Dinoko, N. A. Khumalo, E. A. Lawrie, R. A. Bark, T. D. Bucher, N. Erasmus, P. Jones, S. Jongile, B. V. Kheswa, J. J. Lawrie, L. Makhathini, K. L. Malatji, B. Maqabuka, J. Ndayishimye, S. P. Noncolela, O. Shirinda and M. A. Sithole
***Published in EUROPEAN PHYSCAL JOURNAL A (2018) 54: 59***
https://epja.epj.org/articles/epja/abs/2018/10/10050_2018_12613_Article/10050_2018_12613_Article.html

- ***Yrare low-spin positive-parity states in N = 88 $^{154}$Dy***

G. L. Zimba, S. P. Bvumbi, L. P. Masiteng, P. Jones, J. F. Sharpey-Schafer, **S. N. T. Majola**, T. S. Dinoko, O. Shirinda, J. J. Lawrie, J. E. Easton, N. A. Khumalo, L. Msebi, P. I. Mshita, P. Papka, D. G. Roux, and D. Negi
***Published in EUROPEAN PHYSCAL JOURNAL (2018) 54: 59***
https://link.springer.com/article/10.1140/epja/i2018-12496-3

**PUBLICATIONS/RESEARCH OUTPUTS (continued……..)**

- ***Evolution from quasivibrational to quasirotational structure in $^{155}$Tm and yrast 27/2− to 25/2− energy anomaly in the A≈150 mass region***

L. Liu, S.Y. Wang, S. Wang, H. Hua, S.Q. Zhang, J. Meng, R.A. Bark, S.M. Wyngaardt, B. Qi, D.P. Sun, C. Liu, Z.Q. Li, H. Jia, X.Q. Li, C. Xu, Z.H. Li, J.J. Sun, L.H. Zhu, P. Jones, E.A. Lawrie, J.J. Lawrie, M. Wiedeking, T.D. Bucher, T. Dinoko, L. Makhathini, **S.N.T. Majola**, S.P. Noncolela, O. Shirinda, J. Gál, G. Kalinka, J. Molnár, B.M. Nyakó, J. Timár, K. Juhász, M. Arog

***Published in PHYSICAL REVIEW C, Volume 97, 044306 (2018)***

https://journals.aps.org/prc/abstract/10.1103/PhysRevC.97.044306

- ***Spectroscopic study of the possibly triaxial transitional nucleus 75Ge***

Niu, C. Y., Dai, A. C., Xu, C., Hua, H., Zhang, S. Q., Wang, S. Y., Bark, R. A., Meng, J., Wang, C. G., Wu, X. G., Li, X. Q., Li, Z. H., Wyngaardt, S. M., Zang, H. L., Chen, Z. Q., Wu, H. Y., Xu, F. R., Ye, Y. L., Jiang, D. X., Han, R., Li, C. G., Chen, X. C., Liu, Q., Feng, J., Yang, B., Li, Z. H., Wang, S., Sun, D. P., Liu, C., Li, Z. Q., Zhang, N. B., Guo, R. J., Li, G. S., He, C. Y., Zheng, Y., Li, C. B., Chen, Q. M., Zhong, J., Zhou, W. K., Zhu, B. J., Deng, L. T., Liu, M. L., Wang, J. G., Jones, P., Lawrie, E. A., Lawrie, J. J., Sharpey-Schafer, J. F., Wiedeking, M., **Majola, S. N. T.**, Bucher, T. D., Dinoko, T., Magabuka, B., Makhathini, L., Mdletshe, L., Khumalo, N. A., Shirinda, O., Sowazi, K.

***Published in PHYSICAL REVIEW C, Volume 97, 034322 (2018)***

https://doi.org/10.1103/PhysRevC.97.034322

- ***Investigation of negative-parity states in $^{156}$Dy: Search for evidence of tetrahedral symmetry***

D. J. Hartley, L. L. Riedinger, R. V.Janssens **S. N. T. Majola**, M. A. Riley, M. Allmond, M. James, C. W. Beausang, M. P. Carpenter, C. J. Chiara, N. Cooper, D. Curien, B. J. P. Gall, P.E. Garrett, F.G. Kondev, W.D. Kulp, T. Lauritsen, E.A. McCutchan, D. Miller, J. Piot, N. Redon, J.F. Sharpey-Schafer, J. Simpson, I. Stefanescu, X. Wang, V. Werner, J. L. Wood, C. -H Yu, S. Zhu and J. Dudek.

***Published in PHYSICAL REVIEW C 95, 014321(2017)***

https://journals.aps.org/prc/abstract/10.1103/PhysRevC.95.014321

- ***Search for two-phonon octupole excitations in $^{146}$Gd***

J.N. Orce, M. Kumar Raju, N.A. Khumalo, T.S. Dinoko, P. Jones, R.A. Bark, E.A. Lawrie, **S.N.T. Majola**, L.M. Robledo, B. Rubio, M. Wiedeking, J. Easton, E.A. Khaleel, B.V. Kheswa, N. Kheswa, M.S. Herbert, J.J. Lawrie, P.L. Masiteng, M.R. Nchodu, J. Ndayishimye, D. Negi, S.P. Noncolela, S.S. Ntshangase, P. Papka, D.G. Roux, O. Shirinda, P.S. Sithole, and S.W. Yates,

***EUROPEAN PHYSCAL JOURNAL A 52: 166 (2016)***

https://doi.org/10.1140/epja/i2016-16166-2

**PUBLICATIONS/RESEARCH OUTPUTS (continued……..)**

- ***"Evidence for Octupole Correlations in Multiple Chiral Doublet Bands"***

C. Liu, S. Y.Wang , R. A. Bark, S. Q. Zhang ,J. Meng, B. Qi, P. Jones, S. M. Wyngaardt, J. Zhao C. Xu, S.G. Zhou, S. Wang, D. P. Sun, L. Liu, Z. Q. Li, N. B. Zhang, H. Jia, X. Q. Li, H. Hua, Q. B. Chen, Z. G. Xiao , H. J. Li, L. H. Zhu, T. D. Bucher, T. Dinoko, J. Easton, K. Juhász, N. Khumalo, E. A. Lawrie, 2 J. J. Lawrie, **S. N. T. Majola**, S. M. Mullins, S. Murray, J. Ndayishimye, D. Negi, S. P. Noncolela, S. S. Ntshangase, B. M. Nyakó, , J. N. Orce, P. Papka, J. F. Sharpey-Schafer, O. Shirinda, P. Sithole,
***Published in PHYSICAL REVIEW LETTERS, PRL 116, 112501 (2016) 6***
https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.116.112501

- ***Spectroscopy of $^{155}$Yb: Structure evolution in the N = 85 isotones***

X. Q. Li, C. Xu, S. Q. Zhang, H. Hua, J. Meng, R. A. Bark, Q. B. Chen, C. Y. Niu, R. Han, S. M. Wyngaardt, S. Y. Wang, S. Wang, B. Qi, L. Liu, L. H. Zhu, Z. Shi, G. L. Zhang, B. H. Sun, X. Y. Le, C. Y. Song, Y. L. Ye, D. X. Jiang, F. R. Xu, Z. H. Li, J. J. Sun, Y. Shi, P. W. Zhao, W. Y. Liang, C. G. Li, C. G. Wang, X. C. Chen, Z. H. Li, D. P. Sun, C. Liu, Z. Q. Li, P. Jones, E. A. Lawrie, J. J. Lawrie, M. Wiedeking, T. D. Bucher, T. Dinoko, B. V. Kheswa, L. Makhathini, **S. N. T. Majola**, J. Ndayishimye, S. P. Noncolela, O. Shirinda, J. Gal, G. Kalinka, J. Molnar, B. M. Nyako, J. Timar, K. Juhasz,and M. Arogunjo.
***PHYSICAL REVIEW C 94, 024337 (2016)***
https://journals.aps.org/prc/abstract/10.1103/PhysRevC.94.024337

- ***Nature of low-lying electric dipole resonance excitations in $^{74}$Ge***

Negi, M. Wiedeking, E. G. Lanza, E. Litvinova, A. Vitturi, R. A. Bark, L. A. Bernstein, D. L. Bleuel, S. Bvumbi, T. D. Bucher, B. H. Daub, T. S. Dinoko, J. L. Easton, A. Gorgen, M. Guttormsen, P. Jones, B. V. Kheswa, N. A. Khumalo, A. C. Larsen, E. A. Lawrie, J. J. Lawrie, S. N. T. Majola, L. P. Masiteng, M. R. Nchodu, J. Ndayishimye, R. T. Newman, S. P. Noncolela, J. N. Orce, P. Papka, L. Pellegri, T. Renstrøm, D. G. Roux, R. Schwengner, O. Shirinda, S. Siem
***Published in PHYSICAL REVIEW C 94, 024332 (2016)***
https://journals.aps.org/prc/abstract/10.1103/PhysRevC.94.024332

- ***Octupole correlations in N=88 $^{154}$Dy: Octupole vibration versus stable deformation***

G. L. Zimba, J. F. Sharpey-Schafer, P. Jones, S. P. Bvumbi, L. P. Masiteng, **S. N. T. Majola**, T. S. Dinoko, E. A. Lawrie, J. J. Lawrie, D. Negi, P. Papka, D. Roux, O. Shirinda, J. E. Easton, and N. A. Khumalo
***PHYSICAL REVIEW C 94, 054303 (2016)***
https://journals.aps.org/prc/abstract/10.1103/PhysRevC.94.054303

**PUBLICATIONS/RESEARCH OUTPUTS (continued……..)**

- ***Observation of γ-vibrations and alignments built on non-ground state configurations in $^{156}Dy$***

**S. N. T. Majola**, D. J. Hartley, L.L. Riedinger, J.F. Sharpey-Schafer, J. M. Almond, C. Beausang, M.P. Carpenter, C.J. Chiara, N. Cooper, D. Curien, B. J. P. Gall, P.E. Garrett, R. V. F. Janssens, F.G. Kondev, W.D. Kulp, T. Lauritsen, E.A. McCutchan,, D. Miller, J. Piot, N. Redon, M.A. Riley, J. Simpson, I. Stefanescu, V. Werner, X. Wang, J.L. Wood, C.-H.Yu and S. Zhu

***Published in PHYSICAL REVIEW C 91, 034330 (2015)***

https://journals.aps.org/prc/abstract/10.1103/PhysRevC.91.034330

- **"Evidence for prolate-to-oblate shape transition in Se-76"**

C. Xu, X.Q. Li, J. Meng, S.Q. Zhang, H. Hua, S.Y. Wang, B. Qi, C. Liu, Z. G. Xiao, R.A. Bark, E.A. Law-rie, P. Jones, S.M. Mullins, M. Wiedeking, J.F. Sharpey-Schafer, **S.N.T. Majola**, S.S. Ntshangase, J.N. Orce, T. Dinoko.

***Published in PHYSICAL REVIEW C 91, 061303(R) (2015)***

https://journals.aps.org/prc/abstract/10.1103/PhysRevC.91.061303

- ***High-resolution two-proton stripping to 2p-1h 7/2- states via the $^{59}Co(3He,n)^{61}Cu$ reaction***

P. Papka, J. F. Sharpey-Schafer, B. A. Brown, T. S. Dinoko, E. A. M. A. Khaleel, E. A. Lawrie, J. J. Lawrie, K. C. W. Li, **S. N. T. Majola**, W. A. Richter, O. Shirinda, M. A. Stankiewicz, P. Vymers and M. Wiedeking

***Published in EUROPEAN PHYSICAL JOURNAL. A (2014) 50: 158***

https://epja.epj.org/articles/epja/abs/2014/10/10050_2014_Article_150/10050_2014_Article_150.html

- ***Octupole correlations in the structure of $0^+_2$ bands in the N=88 nuclei $^{150}Sm$ and $^{152}Gd$***

S. P. Bvumbi, J. F.Sharpey-Schafer, M. Jones , S. M. Mullins, B. M. Nyakó, K. Juhász, R. A. Bark, L. Bianco, D. M. Cullen, D. Curien, P. E. Garrett, P. T. Greenlees, J. P. Hirvonen, U. Jakobsson, J. Kau, F. S. Komati, R. Julin, S. Juutinen, S. Kertelhut, A. Korichi, E. A. Lawrie, J. J. Lawrie, M. Leino, T. E. Madiba, **S. N. T. Majola**, P. Maine, A. Minkova, N. J. Ncapayi, J. Timár

***Published in PHYSICAL REVIEW C 94, 054303 (2013)***

https://journals.aps.org/prc/pdf/10.1103/PhysRevC.87.044333

**PUBLICATIONS/RESEARCH OUTPUTS (continued……..)**

- ***The first candidate for chiral nuclei in the A ≈ 80 mass region: $^{80}$Br***.

Y. Wang, B. Qi, L. Liu, S.Q. Zhang, H. Hua, X.Q. Li, Y.Y. Chen, L.H. Zhu, J. Meng, S.M. Wyngaardt, P. Papka, T.T. Ibrahim, R.A. Bark, P. Datta, E.A. Lawrie, J.J. Lawrie, **S.N.T. Majola**, P.L. Masiteng, S.M. Mullins, J. G´l, G. Kalinka, J. Molnr, B.M. Nyako´, J. Tima´r, K. Juh´szh,R. Schwengner.
***Physics Letters B 703, pages 40-45 (2011)***
http://www.sciencedirect.com/science/article/pii/S0370269311008598

- ***"Electric dipole moments in $^{230,232}$U and implications for tetrahedral shapes"***

S.S. Ntshangase, R.A. Bark, D.G. Aschman, S. Bvumbi, P. Datta, P.M. Davidson, T.S. Dinoko, M.E.A. Elbasher, K. Juhasz, E.M.A. Khaleel, A. Krasznahorkay, E.A. Lawrie, J.J. Lawrie, R.M. Lieder, **S.N.T. Majola**, P.L. Masiteng, H. Mohammed, S.M. Mullins, P. Nieminen, B.M. Nyako, P. Papka, D.G. Roux, J.F. Sharpey-Schafer, O. Shirinda, M.A. Stankiewicz, J.Timar, A.N. Wilson.
***Published in Physical Review C 82, 041305(R) (2010)***
https://journals.aps.org/prc/abstract/10.1103/PhysRevC.82.041305

- ***A double vacuum, configuration dependent pairing and lack of ß-vibrations in transitional nuclei: Band structure of N = 88 to N = 91 Nuclei***

J.F. Sharpey-Schafer, R.A. Bark, S.P. Bvumbi, E.A. Lawrie, J.J. Lawrie, T.E. Madiba, S.N.T. Majola, A. Minkova, S.M. Mullins, P. Papka, D.G. Roux, J. Timár
***Nuclear Physics A, 834(1-4) (2010)***
https://www.sciencedirect.com/science/article/abs/pii/S0375947410000151

**PUBLICATIONS/RESEARCH OUTPUTS (continued……..)**

**Selected research outputs/publications: Articles in Refereed/Peer-reviewed Conference Outputs**

Title of Conference/ Proceeding
**16th International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics (CGS16)):**
**Studies of positive-parity low-spin states in the A = 150 region:** EPJ Web Conf., 178 (2018) 02012
Robert Bar, Zhipan Li, **Siyabonga Majola**, John Sharpey-Schafer, Zhi Shi and Shuangquan Zhang
http://www.actaphys.uj.edu.pl/fulltext?series=Reg&vol=48&page=343

- ***Chiral Bands in $^{193}Tl$***

Title of Conference/ Proceeding
ACTA PHYSICA POLONICA B vol. 48, issue 3, page. 343 (2016)
J. Ndayishimye, E. A. Lawrie, O. Shirinda, J. L. Easton, S. M. Wyngaardt, R. A. Bark, S. P. Bvumbi, T. S. Dinoko, P. Jones, N. Y. Kheswa, J. J. Lawrie, S. N. T. Majola, P. L. Masiteng, D. Negi, J. N. Orce, P. Papka, J. F. Sharpey-Schafer, M. Stankiewicz, M.Wiedeking.
https://www.epj-conferences.org/articles/epjconf/abs/2018/13/epjconf_cgs162018_02012/epjconf_cgs162018_02012.html

- ***First observation of E1 transitions from the octupole band to the excited $0^+_2$ pairing isomer band in the rare earth nucleus $^{154}Dy$***

Title of Conference/ Proceeding
**53rd International Winter Meeting on Nuclear Physics, 26-30 January (2015) Bormio, Italy**
G. L. Zimba, S. P Bvumbi, L. P. Masiteng, P. Jones, **S. N. T. Majola**, T. S. Dinoko, J. F. Sharpey-Schafer, E. A Lawrie, J. J. Lawrie
https://pos.sissa.it/238/021/pdf

**PUBLICATIONS/RESEARCH OUTPUTS (continued……..)**

- ***High resolution $^{148}$Nd(3He,nγ) two proton stripping reaction and the structure of the $0_2^+$ state in $^{150}$Sm***

Title of Conference/Proceeding

**European Physical Journal Web of Conferences, page 02116 (2015)**

J. F. Sharpey-Schafer, P. Papka, S. P. Bvumbi, P. M Jones, P. Vymers, T. D. Bucher, T. S. Dinoko, J. L. Easton, M. S. Herbert, B. V. Kheswa, N. Khumalo, E. A. Lawrie, J. J. Lawrie**, S. N. T. Majola**, J. Ndayishimye, D. Negi, S. P. Noncolela, J. N. Orce, O. Shirinda, P. Sithole, M.A. Standkiewicz and M. Wiedeking.

https://www.epj-conferences.org/articles/epjconf/pdf/2014/03/epjconf_inpc2013_02116.pdf

- ***Coulomb and Inelastic Excitations of Target Nuclei in (3He,n) Two Proton Stripping Reactions on $^{27}$Al, $^{59}$Co, $^{148}$Nd and $^{160}$Gd***

Title of Conference/Proceeding

**52 International Winter Meeting on Nuclear Physics (Bormio 2014) January 27 - 31 2014 Bormio, Italy**

J F Sharpey-Schafer, P Papka, P M Jones, P Vymers, R A Bark, T D Bucher, S P Bvumbi, T S Dinoko, J L Easton, M S Herbert, B V Kheswa, E A M A Khaleel, N Khumalo, E A Lawrie, J J Lawrie, **S N T Majola**, J Ndayishimye, M. R. Nchodu, D Negi, S P Noncolela, J N Orce, O Shirinda, P Sithole and M Wiedeking

https://pos.sissa.it/212/064/pdf

- ***Study of $0^+$ States at iThemba LABS***

Title of Conference/Proceeding

**Heavy Ion Accelerator Symposium 2013 proceedings (2013)**

P. Jones, P. Papka,, J.F. Sharpey-Shafer, P. Vymers, S. P. Bvumbi, T. D. Bucher, T. S. Dinoko, J. L. Easton, M. S. Herbert, B. V. Kheswa, N. Khumalo, E. A. Lawrie, J. J. Lawrie, **S. N. T. Majola**, J. Ndayishimye, D. Negi, S. P. Noncolela, J. N. Orce, O. Shirinda, P. Sithole, M. A. Stankiewicz and M. Wiedeking

https://www.epj-conferences.org/articles/epjconf/pdf/2013/24/epjconf_hias2013_01015.pdf

- ***High Resolution (3He,n) Two Proton Stripping Reaction to $0^+$ States Populated in 2β Decay***

Title of Conference/Proceeding

**International Winter Meeting on Nuclear Physics, 21-25 January 2013 Bormio, Italy (2013)**

P. Papka, E. A. M. A. Khaleel, P. Vymers, T. S. Dinoko, W. A. Richter, J. F. Sharpey-Schafer, P. Jones, E. A. Lawrie, J. J. Lawrie, **S. N. T. Majola**, O. Shirinda, M. Wiedeking, M. A. Stankiewicz and B. A. Brown

https://pos.sissa.it/184/038/pdf

**PUBLICATIONS/RESEARCH OUTPUTS (continued……..)**

- ***Spin-parity assignments and extension of the $0_2^+$ band in $^{158}Er$***

Title of Proceeding/Conference

**Heavy Ion Accelerator Symposium (2013)**

T S Dinoko, J N Orce, J F Sharpey-Schafer, M Wiedeking, R A Bark, S P Bvumbi, P Jones, E A M A Khaleel, E A Lawrie, J J Lawrie, **S N T Majola**, P L Masiteng, H Mohammed, S S Ntshangase, P Papka, O Shirinda, M Stankiewicz and E N Zhou

https://www.epj-conferences.org/articles/epjconf/pdf/2013/24/epjconf_hias2013_01005.pdf

- ***Search for the Chiral nuclei in A ~80 Mass region***

Title of Proceeding

**WSPC - Proceedings Trim Size (2012)**

J. Meng, S. Q. Zhang, H. Hua, X. Q. Li, Y. Y. Chen, L. H. Zhu, S. M. Wyngaardt, P. Papka, T. T. Ibrahim, R. A. Bark, P. Datta, E. A. Lawrie, J. J. Lawrie, **S. N. T. Majola**, P. L. Masiteng, S. M. Mullins, J. Gal, G. Kalinka, J. Molnar, B.M. Nyako, J. Timar, K. Juhasz, R. Schwengner

http://www.worldscientific.com/doi/abs/10.1142/9789814447485_0044

- ***Evolution of γ-Vibrations at High Spin***

Title of Proceeding/Conference

**Proceedings of Science: XLIX International Winter Meeting on Nuclear Physics-BORMIO2011, Bormio, Italy (2011)**

J. F. Scharpey-Schafer, **S N T Majola**, R A Bark, S P Bvumbi, T S Dinoko, E A Lawrie, J J Lawrie, S M Mullins, J N Orce and P Papka

https://pos.sissa.it/135/003/pdf

- ***A double vacuum, configuration dependent pairing and lack of β-vibrations in transitional nuclei: Band structure of N = 88 to N = 91 Nuclei***

Nuclear Physics A Volume 834, Issues 1–4

**Title of Contribution/Proceeding**

The 10th International Conference on Nucleus-Nucleus Collisions (NN2009) August 16-21, Beijing (2009**),** page 45c

J.F. Sharpey-Schafer, R.A. Bark, S.P. Bvumbi, E.A. Lawrie, J.J. Lawrie, T.E. Madiba, **S.N.T. Majola**, A. Minkova, S.M. Mullins, P. Papka, D.G. Roux, J. Timár

http://www.sciencedirect.com/science/article/pii/S0375947410000151

**PUBLICATIONS/RESEARCH OUTPUTS (continued……..)**

## Postgraduate Students supervision and mentorship

### MSc student supervision/Mentorship

| Student | Project title | Status |
|---|---|---|
| **1.** Miss S Jongile | Coupling of single proton configurations to collective core excitations in $^{162}$Yb: the nucleus $^{161}$Tm | Completed-2017 |
| **2.** Mr L. Mdletshe | The Study of Low lying Positive Parity Bands in 162Yb. | Completed-2017 |
| **3.** Mr M. A. Sithole | Coupling of single neutron configurations to collective core excitations in $^{162}$Yb using $^{163}$Yb | Completed-2018 |
| **4.** Mr A. Netshiya | Octupole and Quadrupole Structures in the N=88 Nucleus 152Gd | Completed-2018 |
| **5.** Miss Nomcebo Yende | | In progress 2019- |

### PhD student supervision/Mentorship

| Student | Project title | Status |
|---|---|---|
| **6.** Mr M. A. Sithole | Coupling of Collective and Pairing Isomer Structures of 186Os in 187Os | In progress 2018- |
| **7.** Mr L. Mdletshe | Collective and Pairing Isomer Structures in Z=76 Nuclei using the 186W(α;4,3n)186 | In progress 2018- |
| **8.** Miss N. A. Khumalo | Low spin states of 162Hf | In progress 2015- |

## REFERENCES

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