

# **High Energy Particle Physics Workshop 2016**

## **Report of Contributions**

Contribution ID: 0

Type: **not specified**

## Welcome by the Wits DVC Research and Physics HoS

*Monday, 8 February 2016 09:00 (10 minutes)*

**Presenters:** Prof. RODRIGUES, Joao (University of the Witwatersrand); Prof. VILAKAZI, Zeblon (University of the Witwatersrand)

**Session Classification:** Opening Session

Contribution ID: 1

Type: **not specified**

## Welcome by the DST

*Monday, 8 February 2016 09:10 (15 minutes)*

**Presenter:** Dr ADAMS, Daniel (DST)

**Session Classification:** Opening Session

Contribution ID: 2

Type: **not specified**

## Welcome by the President of the SAIP

*Monday, 8 February 2016 09:25 (10 minutes)*

**Presenter:** MURONGA, Azwinndini (University of Johannesburg)

**Session Classification:** Opening Session

Contribution ID: 3

Type: **not specified**

## **Welcome by the Chairman of the SA-CERN Consortium**

*Monday, 8 February 2016 09:35 (10 minutes)*

**Presenter:** CLEYMANS, Jean (Department of Physics)

**Session Classification:** Opening Session

Contribution ID: 4

Type: **not specified**

## Goals and structure of the workshop

*Monday, 8 February 2016 09:45 (15 minutes)*

**Presenters:** CORNELL, Alan; MELLADO GARCIA, Bruce (University of the Witwatersrand)

**Session Classification:** Opening Session

Contribution ID: 5

Type: **not specified**

## **Short path length pQCD corrections to energy loss in the quark gluon plasma**

**Presenter:** KOLBE, Isobel (University of Cape Town (ZA))

Contribution ID: 6

Type: **not specified**

## **Short path length pQCD corrections to energy loss in the quark gluon plasma**

*Tuesday, 9 February 2016 09:00 (20 minutes)*

**Presenter:** KOLBE, Isobel (University of Cape Town (ZA))

**Session Classification:** Presentation session I



Contribution ID: 7

Type: **not specified**

## **Conditional probability computations in Asymptotically free QCD**

*Tuesday, 9 February 2016 09:20 (20 minutes)*

**Presenter:** MEIRING, Ben (University of Cape Town)

**Session Classification:** Presentation session I

Contribution ID: 8

Type: **not specified**

## **Energy density of light quark jet using AdS/CFT**

*Tuesday, 9 February 2016 09:40 (20 minutes)*

**Presenter:** MORAD, Raziieh (University of Cape Town)

**Session Classification:** Presentation session I

Contribution ID: 9

Type: **not specified**

## **Non-Abelian correction to the Poisson Approximation for In Medium Multi-gluon Bremsstrahlung**

*Tuesday, 9 February 2016 10:00 (20 minutes)*

**Presenter:** RASOANAIVO, Andrianiaina Narindra (University of Cape Town)

**Session Classification:** Presentation session I

Contribution ID: **10**

Type: **not specified**

## **Measurement of neutral pions in ALICE using the Photon Conversion Method**

*Tuesday, 9 February 2016 11:20 (20 minutes)*

**Presenter:** WHITEHEAD, Andile Mothegi (University of Cape Town (ZA))

**Session Classification:** Presentation session II

Contribution ID: 11

Type: **not specified**

## **Quarkonium and open heavy-flavour production at forward rapidity with ALICE at the LHC**

*Tuesday, 9 February 2016 11:00 (20 minutes)*

**Presenter:** MARCHISONE, Massimiliano (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session II

Contribution ID: 12

Type: **not specified**

## **Measurement of open heavy-flavour production as a function of charged-particle multiplicity with ALICE at the LHC**

*Tuesday, 9 February 2016 11:40 (20 minutes)*

**Presenter:** MHLANGA, Sibaliso (University of Cape Town (ZA))

**Session Classification:** Presentation session II

Contribution ID: 13

Type: **not specified**

## **Vector-boson production in p-Pb collisions with ALICE at the LHC**

*Tuesday, 9 February 2016 12:00 (20 minutes)*

**Presenter:** SENOSI, Kgotlaesele (University of Cape Town (ZA))

**Session Classification:** Presentation session II

Contribution ID: 14

Type: **not specified**

## **Production of Black Holes at the LHC**

*Tuesday, 9 February 2016 10:20 (20 minutes)*

**Presenter:** HARMSSEN, Gerhard (University of the Witwatersrand)

**Session Classification:** Presentation session I



Contribution ID: 15

Type: **not specified**

## **Gauge-Higgs Unification in 5 Dimensions for a gauge group SU(3)**

*Tuesday, 9 February 2016 12:20 (20 minutes)*

**Presenter:** KHOJALI, Mohammed (University of the Witwatersrand)

**Session Classification:** Presentation session II

Contribution ID: 16

Type: **not specified**

## **Search for resonances decaying to di-photons in 3.2 fb-1 of pp collisions at 13 TeV with the ATLAS detector**

*Tuesday, 9 February 2016 14:00 (20 minutes)*

**Presenter:** REED, Robert Graham (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session III

Contribution ID: 17

Type: **not specified**

## Have we observed new physics in the LHC data?"

*Tuesday, 9 February 2016 14:40 (20 minutes)*

**Presenter:** KUMAR, Mukesh (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session III

Contribution ID: **18**

Type: **not specified**

## **A scalar with a mass around 270 GeV and its possible connection to the X(750) excess**

*Tuesday, 9 February 2016 15:00 (20 minutes)*

**Presenter:** VON BUDDENBROCK, Stefan (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session III

Contribution ID: 19

Type: **not specified**

## Two Higgs Doublet Models

*Tuesday, 9 February 2016 14:20 (20 minutes)*

**Presenter:** MOSOMANE, Chuene Johannes (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session III

Contribution ID: 20

Type: **not specified**

## **Search for dark matter candidate with ATLAS experiment in Higgs to two photons final states**

*Tuesday, 9 February 2016 16:00 (20 minutes)*

**Presenter:** RUAN, Xifeng (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session IV

Contribution ID: 21

Type: **not specified**

## **Performance of Jet Vertex Tagger in suppression of pileup jets and missing ET with ATLAS detector**

*Tuesday, 9 February 2016 16:40 (20 minutes)*

**Presenter:** TOMIWA, Kehinde Gbenga (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session IV

Contribution ID: 22

Type: **not specified**

# Missing transverse momentum reconstruction at ATLAS

*Tuesday, 9 February 2016 16:20 (20 minutes)*

**Presenter:** PELWAN, Chad Dean (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session IV



Contribution ID: 23

Type: **not specified**

## **Investigating possible dark matter production at the LHC by studying the rapidity of the Higgs Boson**

*Tuesday, 9 February 2016 17:20 (20 minutes)*

**Presenter:** MOODLEY, Chane (University of the Witwatersrand)

**Session Classification:** Presentation session IV

Contribution ID: 24

Type: **not specified**

## **Study of jet substructure observables for reconstructing boosted Higgs boson**

*Tuesday, 9 February 2016 17:00 (20 minutes)*

**Presenter:** Mολουpe, Tshidiso Sydwell (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session IV

Contribution ID: 25

Type: **not specified**

## **Next-to-leading order corrections to the elastic scattering of an electron off of a static scattering center**

*Wednesday, 10 February 2016 09:00 (20 minutes)*

**Presenter:** IBRAHIM, Abdullah (University of Cape Town)

**Session Classification:** Presentation session V

Contribution ID: 26

Type: **not specified**

## **The production of a heavy scalar H in association with top and anti-top quarks**

*Wednesday, 10 February 2016 09:20 (20 minutes)*

**Presenter:** MTHEMBU, Skhathisomusa (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session V

Contribution ID: 27

Type: **not specified**

## **Search for the Higgs boson in the di-photon decay in association with intermediate missing energy with the ATLAS detector**

*Wednesday, 10 February 2016 09:40 (20 minutes)*

**Presenter:** LIAO, Shell-May (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session V

Contribution ID: 28

Type: **not specified**

## **A high throughput ADC system for the PROMETEO test-bench of the ATLAS Tile Calorimeter**

*Wednesday, 10 February 2016 10:00 (20 minutes)*

**Presenter:** SPOOR, Matthew (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session V

Contribution ID: 29

Type: **not specified**

## **The ATLAS Tile Calorimeter hybrid demonstrator and test-beam activities at CERN**

*Wednesday, 10 February 2016 10:20 (20 minutes)*

**Presenter:** KUREBA, Chamunorwa Oscar (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session V

Contribution ID: **30**

Type: **not specified**

## **The use of GPGPU at ATLAS**

*Wednesday, 10 February 2016 11:00 (20 minutes)*

**Presenter:** SACKS, Marc (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session



Contribution ID: 31

Type: **not specified**

## **Radiation hardness of plastic scintillators for the Tile Calorimeter of the ATLAS detector**

*Wednesday, 10 February 2016 11:20 (20 minutes)*

**Presenter:** JIVAN, Harshna (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session

Contribution ID: 32

Type: **not specified**

## **Studying the effects of radiation damage in plastic scintillators using electron paramagnetic resonance for the replacement of the MBTS plastics in the ATLAS detector**

*Wednesday, 10 February 2016 11:40 (20 minutes)*

**Presenter:** PELWAN, Chad Dean (University of the Witwatersrand (ZA))

**Session Classification:** Presentation session

Contribution ID: 33

Type: **not specified**

## **Analysis of systematic uncertainty of transmission experiment on radiation damaged material**

*Wednesday, 10 February 2016 12:00 (20 minutes)*

**Presenter:** TJALE, Phuti (University of the Witwatersrand)

**Session Classification:** Presentation session

Contribution ID: 34

Type: **not specified**

## **Neutron Irradiation and Damage Assessment of Plastic Scintillators of the Tile Calorimeter of the ATLAS Detector**

*Wednesday, 10 February 2016 12:20 (20 minutes)*

**Presenter:** MDHLULI, Joyful (University of the Witwatersrand)

**Session Classification:** Presentation session