High Energy Particle Physics Workshop (HEPPW 2015)

Journal of Physics: Conference Series Volume 645

Johannesburg, South Africa 11 - 13 February 2015

ISBN: 978-1-5108-1472-1

ISSN: 1742-6588

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2015) by the Institute of Physics All rights reserved. The material featured in this book is subject to IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact the Institute of Physics at the address below.

Institute of Physics Dirac House, Temple Back Bristol BS1 6BE UK

Phone: 44 1 17 929 7481 Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2634

Email: curran@proceedings.com Web: www.proceedings.com

Table of contents

Volume 645

High Energy Particle Physics Workshop (HEPPW2015) 11–13 February 2015, Johannesburg, South Africa

Preface 011001

<u>High Energy Particle Physics Workshop (HEPPW2015)</u> OPEN ACCESS A S Cornell and B Mellado

011002

Sponsors, Organising Committee and Speakers OPEN ACCESS

011003

Peer review statement OPEN ACCESS

Papers

Theoretical collider

012001

<u>Large trilinear A₁ soft supersymmetry breaking coupling from 5D MSSM OPEN</u> ACCESS Ammar Abdalgabar and A S Cornell'"'r i 03'""

012002

Some theories beyond the Standard Model OPEN ACCESS Alan S Cornell""ri 08

012003

Quasi-normal Modes for Spin-3/2 Fields OPEN ACCESS Gerhard Erwin Harmsen""ri 035

012004

Short Path Length Energy Loss in the Quark-Gluon Plasma from pQCD OPEN ACCESS Isobel Kolbe and W A Horowitz'"ri 03;

Single Top and Higgs Production in e p collisions OPEN ACCESS Mukesh Kumar""ri 045

012006

Finite time calculations for hard parton production relevant to the quark-gluon plasma OPEN ACCESS Ben Meiring and W A Horowitz""ri 052

012007

<u>Jets of light hadrons via AdS/CFT correspondence</u> OPEN ACCESS R Morad and W A Horowitz'"'r i 0'58

Experimental collider

012008

Review of jet reconstruction algorithms OPEN ACCESS Ryan Atkin""ri 064

012009

<u>Understanding the Higgs boson with the Large Hadron Electron Collider OPEN</u> ACCESS Jonathan Esteves'"ri 06:

012010

Measurement of the Higgs Boson Transverse Momentum and its Sensitivity to New Physics Beyond the Standard Model OPEN ACCESS D Gossman""ri 077

012011

Results of the search for an A boson decaying to Zh, with an $\ell\ell\tau\tau$ final state, in pp collisions at 8 TeV centre of mass energy recorded with the ATLAS experiment OPEN ACCESS Guillermo Nicolas Hamity""r i 085

012012

Missing p_T Reconstruction at ATLAS OPEN ACCESS Claire A Lee""ri 08;

012013

<u>Using a Classical Gluon Cascade to study the Equilibration of a Gluon-Plasma</u> OPEN ACCESS Lucas McConnell'"ri 097

012014

Performance of missing transverse momentum reconstruction in ATLAS studied in proton-proton collisions in 2012 at 8 TeV OPEN ACCESS Luis March""ri 0: 2

012015

Measurement of the Higgs Boson Transverse Momentum in the Di-photon Channel with the ATLAS detector in Run 1 OPEN ACCESS Robert Graham Reed""ri 0: 8

012016

Measurement of Higgs boson properties using the diphoton decay with the ATLAS detector OPEN ACCESS X Ruan""ri 0; 2

012017

<u>Hypothesising Dark Matter Models in pp Collisions</u> OPEN ACCESS Stefan von Buddenbrock''"r i 0: 7

Instrumentation

012018

Towards Optimal Filtering on ARM for ATLAS Tile Calorimeter Front-End Processing OPEN ACCESS Mitchell A Cox""ri 0323

012019

Radiation hardness of plastic scintillators for the Tile Calorimeter of the ATLAS detector OPEN ACCESS H Jivan, E Sideras-Haddad, R Erasmus, S Liao, M Madhuku, G Peters, K Sekonya and O Solvyanov''"r i 0328

012020

Design of a new front-end electronics test-bench for the upgraded ATLAS detector's Tile Calorimeter OPEN ACCESS C O Kureba, M Govender, I Hofsajer, X Ruan, C Sandrock and M Spoor'""r i 0334

012021

A comparative study of the radiation hardness of plastic scintillators for the upgrade of the Tile Calorimeter of the ATLAS detector OPEN ACCESS S Liao, R Erasmus, H Jivan, C Pelwan, G Peters and E Sideras-Haddad'""r i 0339

012022

PGAS in-memory data processing for the Processing Unit of the Upgraded Electronics of the Tile Calorimeter of the ATLAS Detector OPEN ACCESS Daniel Ohene-Kwofie and Ekow Otoo'"ri 0'346

012023

Characterization of plastic scintillators using magnetic resonance techniques for the upgrade of the Tile Calorimeter in the ATLAS detector OPEN ACCESS C Pelwan, H Jivan, D Joubert, J Keartland, S Liao, G Peters and E Sideras-Haddad""ri 034:

012024

An Integration Framework Tool for ATCA Chassis in the ATLAS Detector Control System OPEN ACCESS Robert Graham Reed""ri 0'354

012025

Exploiting Parallelism in the TileCal Trigger System with GPGPU OPEN ACCESS Marc Sacks""ri 0359

012026

<u>ANA - A framework for building ATHENA on ARM OPEN ACCESS</u> Joshua Wyatt Smith and Andrew Hamilton'"r i 0363

012027

Development of a high data-throughput ADC board for the PROMETEO portable testbench for the upgraded front-end electronics of the ATLAS TileCal OPEN ACCESS Matthew Spoor, Oscar Kureba and Charles Sandrock''"r i 0368

012028

The data acquisition system for a fixed target experiment at NICA complex at JINR and its connection to the ATLAS TileCal readout electronics OPEN ACCESS K G Tomiwa, I Slepnev and S Bazylev""ri 0374