

# **Radiation effects in the LHC experiments and impact on operation and performance**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## Registration

*Monday, February 11, 2019 8:30 AM (30 minutes)*

Contribution ID: 2

Type: **not specified**

## Workshop welcome and goals

*Monday, February 11, 2019 9:00 AM (15 minutes)*

**Presenter:** DAWSON, Ian (University of Sheffield (GB))

Contribution ID: **3**

Type: **not specified**

## **Lunch break**

*Monday, February 11, 2019 12:30 PM (1h 30m)*

Contribution ID: 4

Type: **not specified**

## **Lunch break**

*Tuesday, February 12, 2019 12:35 PM (1h 25m)*

Contribution ID: 5

Type: **not specified**

## Introduction

*Tuesday, February 12, 2019 9:00 AM (10 minutes)*

**Presenter:** DAWSON, Ian (University of Sheffield (GB))

**Session Classification:** Radiation Background Simulation and Monitoring

Contribution ID: 6

Type: **not specified**

# **Radiation damage simulation and modelling in FLUKA**

*Tuesday, February 12, 2019 9:10 AM (20 minutes)*

**Presenter:** VLACHOUDIS, Vasilis (CERN)

**Session Classification:** Radiation Background Simulation and Monitoring

Contribution ID: 7

Type: **not specified**

## **Radiation background simulation capabilities of Geant4**

*Tuesday, February 12, 2019 9:30 AM (20 minutes)*

**Presenter:** Prof. IVANTCHENKO, Vladimir (CERN)

**Session Classification:** Radiation Background Simulation and Monitoring



Contribution ID: 8

Type: **not specified**

## **Event generators for simulating radiation backgrounds**

*Tuesday, February 12, 2019 9:50 AM (20 minutes)*

**Presenter:** KAR, Deepak (University of the Witwatersrand (ZA))

**Session Classification:** Radiation Background Simulation and Monitoring

Contribution ID: 9

Type: **not specified**

## Coffee break

**Session Classification:** Radiation Background Simulation and Monitoring

Contribution ID: **10**

Type: **not specified**

## **ATLAS simulations, predictions, comparison with data**

*Tuesday, February 12, 2019 11:00 AM (20 minutes)*

**Presenter:** MENKE, Sven (Max-Planck-Institut für Physik (DE))

**Session Classification:** Radiation Background Simulation and Monitoring

Contribution ID: 11

Type: **not specified**

## **CMS simulations, predictions, comparison with data**

*Tuesday, February 12, 2019 11:20 AM (20 minutes)*

**Presenter:** MALLOWS, Sophie (KIT - Karlsruhe Institute of Technology (DE))

**Session Classification:** Radiation Background Simulation and Monitoring

Contribution ID: 12

Type: **not specified**

## **LHCb simulations, predictions, comparison with data**

*Tuesday, February 12, 2019 11:40 AM (20 minutes)*

**Presenters:** MUCHA, Agnieszka (UST, FPACS, CERN); OBLAKOWSKA-MUCHA, Agnieszka (AGH University of Science and Technology (PL))

**Session Classification:** Radiation Background Simulation and Monitoring

Contribution ID: 13

Type: **not specified**

## Discussion

**Presenter:** ALL

**Session Classification:** Radiation Background Simulation and Monitoring

Contribution ID: 14

Type: **not specified**

## **Silicon radiation damage at the LHC experiments**

*Monday, February 11, 2019 9:15 AM (30 minutes)*

**Presenter:** SONNEVELD, Jory (Hamburg University (DE))

**Session Classification:** Sensor measurements

Contribution ID: 15

Type: **not specified**

## **CMS pixel radiation damage measurements**

*Monday, February 11, 2019 9:45 AM (20 minutes)*

**Presenter:** FEINDT, Finn (Hamburg University (DE))

**Session Classification:** Sensor measurements



Contribution ID: 16

Type: **not specified**

## **CMS strip radiation damage measurements**

*Monday, February 11, 2019 10:25 AM (20 minutes)*

**Presenter:** AGRAM, Jean-Laurent (IPHC Strasbourg - Univ. de Haute-Alsace (FR))

**Session Classification:** Sensor measurements

Contribution ID: 17

Type: **not specified**

## **Silicon Pixel Sensor Simulation in the CMS Monte Carlo Framework**

*Monday, February 11, 2019 2:45 PM (20 minutes)*

**Presenter:** MANTILLA SUAREZ, Cristina Ana (Johns Hopkins University (US))

**Session Classification:** Sensor simulation

Contribution ID: **18**

Type: **not specified**

## Overview

*Monday, February 11, 2019 2:10 PM (35 minutes)*

**Presenter:** BENOIT, Mathieu (UNIGE)

**Session Classification:** Sensor simulation

Contribution ID: **19**

Type: **not specified**

## **Introduction**

*Monday, February 11, 2019 2:00 PM (10 minutes)*

**Session Classification:** Sensor simulation

Contribution ID: 20

Type: **not specified**

## **Recent results of the RD50 Collaboration**

*Monday, February 11, 2019 11:50 AM (20 minutes)*

**Presenter:** BASELGA, Marta (KIT - Karlsruhe Institute of Technology (DE))

**Session Classification:** Sensor measurements

Contribution ID: 21

Type: **not specified**

## **Leakage current measurements with the ATLAS pixel detector**

*Monday, February 11, 2019 10:05 AM (20 minutes)*

**Presenter:** GRUMMER, Aidan (University of New Mexico (US))

**Session Classification:** Sensor measurements

Contribution ID: 22

Type: **not specified**

## **Pixel Radiation Damage Measurements with ATLAS**

*Monday, February 11, 2019 3:05 PM (20 minutes)*

**Presenter:** SABATINI, Paolo (Georg August Universitaet Goettingen (DE))

**Session Classification:** Sensor simulation

Contribution ID: 23

Type: **not specified**

## **On the uncertainties of silicon hardness factors**

*Tuesday, February 12, 2019 10:10 AM (25 minutes)*

**Presenter:** HUHTINEN, Mika (CERN)

**Session Classification:** Radiation Background Simulation and Monitoring



Contribution ID: 24

Type: **not specified**

## **Sensor measurements with the ATLAS SCT**

*Monday, February 11, 2019 11:10 AM (20 minutes)*

**Presenter:** MOCHIZUKI, Kazuya (Universite de Montreal (CA))

**Session Classification:** Sensor measurements

Contribution ID: 25

Type: **not specified**

# **Lorentz angle measurements and simulations in ATLAS**

*Monday, February 11, 2019 3:50 PM (20 minutes)*

**Presenter:** LLORENTE MERINO, Javier (Chinese Academy of Sciences (CN))

**Session Classification:** Sensor simulation

Contribution ID: 26

Type: **not specified**

## **Status and Plans for ATLAS Radiation Damage Simulation**

*Monday, February 11, 2019 4:10 PM (20 minutes)*

**Presenter:** WANG, Alex Zeng (University of Wisconsin Madison (US))

**Session Classification:** Sensor simulation

Contribution ID: 27

Type: **not specified**

## **Silicon Strip Sensor Simulation in the CMS Monte Carlo Framework**

*Monday, February 11, 2019 4:30 PM (20 minutes)*

**Presenter:** CHABERT, Eric (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Sensor simulation

Contribution ID: 28

Type: **not specified**

## Introduction

*Tuesday, February 12, 2019 2:00 PM (10 minutes)*

**Presenter:** BUTZ, Erik (KIT - Karlsruhe Institute of Technology (DE))

**Session Classification:** Electronics/Optoelectronics

Contribution ID: 29

Type: **not specified**

## **Simulation of SEU/SET effects in the DICE latches by AFTU tool**

*Tuesday, February 12, 2019 2:10 PM (15 minutes)*

**Presenter:** PALOMO PINTO, Francisco Rogelio (Universidad de Sevilla (ES))

**Session Classification:** Electronics/Optoelectronics

Contribution ID: **30**

Type: **not specified**

## **SEU/SET results in ATLAS IBL FE-I4-B**

*Tuesday, February 12, 2019 2:25 PM (30 minutes)*

**Presenter:** BINDI, Marcello (Georg August Universitaet Goettingen (DE))

**Session Classification:** Electronics/Optoelectronics

Contribution ID: 31

Type: **not specified**

## **Evolution of low voltage currents in ATLAS IBL FE-I4 pixels**

by video

**Presenter:** DICKINSON, Jennet Elizabeth (Lawrence Berkeley National Lab. (US))

**Session Classification:** Electronics/Optoelectronics



Contribution ID: 32

Type: **not specified**

## **SEU and LV currents in CMS pixels**

*Tuesday, February 12, 2019 3:35 PM (20 minutes)*

**Presenter:** PADEKEN, Klaas (Vanderbilt University (US))

**Session Classification:** Electronics/Optoelectronics

Contribution ID: 33

Type: **not specified**

## **Irradiation results from ATLAS SCT opto-boards**

*Tuesday, February 12, 2019 3:55 PM (20 minutes)*

**Presenter:** POWNALL, Gavin (University of Oxford (GB), DESY (DE))

**Session Classification:** Electronics/Optoelectronics

Contribution ID: 34

Type: **not specified**

## **Radiation effects in the CMS strip tracker readout electronics**

*Tuesday, February 12, 2019 4:15 PM (20 minutes)*

**Presenter:** GEROSA, Raffaele Angelo (Univ. of California San Diego (US))

**Session Classification:** Electronics/Optoelectronics

Contribution ID: 35

Type: **not specified**

## **LHCb electronics irradiation experience**

TBC

**Session Classification:** Electronics/Optoelectronics

Contribution ID: **36**

Type: **not specified**

## **Discussions**

*Tuesday, February 12, 2019 4:35 PM (40 minutes)*

**Session Classification:** Electronics/Optoelectronics

Contribution ID: 37

Type: **not specified**

## **ALICE simulations, predictions, comparisons with data**

*Tuesday, February 12, 2019 12:00 PM (20 minutes)*

**Presenter:** DI MAURO, Antonello (CERN)

**Session Classification:** Radiation Background Simulation and Monitoring

Contribution ID: **38**

Type: **not specified**

## **Discussion**

*Tuesday, February 12, 2019 12:20 PM (15 minutes)*

**Presenter:** ALL

**Session Classification:** Radiation Background Simulation and Monitoring

Contribution ID: 39

Type: **not specified**

## **Radiation Damage and Detector Performance of the LHCb VELO in Run 1 and 2**

**Presenter:** OBLAKOWSKA-MUCHA, Agnieszka (AGH University of Science and Technology (PL))



Contribution ID: 40

Type: **not specified**

## **Radiation effects in the LHCb VELO Run 1+2**

*Monday, February 11, 2019 11:30 AM (20 minutes)*

**Presenter:** SARPIS, Gediminas (University of Manchester (GB))

**Session Classification:** Sensor measurements

Contribution ID: 41

Type: **not specified**

## **LHCb Radiation damage simulations and comparison with data**

**Presenter:** OBLAKOWSKA-MUCHA, Agnieszka (AGH University of Science and Technology (PL))

**Session Classification:** Sensor simulation

Contribution ID: 42

Type: **not specified**

## Discussion

*Monday, February 11, 2019 12:10 PM (20 minutes)*

**Session Classification:** Sensor measurements

Contribution ID: 43

Type: **not specified**

## Discussion

*Monday, February 11, 2019 4:50 PM (25 minutes)*

**Session Classification:** Sensor simulation

Contribution ID: 44

Type: **not specified**

## Discussions

*Tuesday, February 12, 2019 2:55 PM (15 minutes)*

**Session Classification:** Electronics/Optoelectronics