

**6th RD50 - Workshop on  
Radiation hard semiconductor  
devices for very high  
luminosity colliders**

**Report of Contributions**

Contribution ID: 1

Type: **not specified**

## **Manufacture of High Resistivity, Low Oxygen Czochralski Silicon**

*Thursday 2 June 2005 09:15 (25 minutes)*

**Author:** OLLI ANTILA (Okmetic Oyj)

**Presenter:** OLLI ANTILA (Okmetic Oyj)

**Session Classification:** Plenary session -Silicon technology for detectors

Contribution ID: 2

Type: **not specified**

## **Quantitative copper and iron measurement in silicon using contactless recombination lifetime measurements**

*Thursday 2 June 2005 09:40 (20 minutes)*

**Author:** HELE SAVIN (Helsinki University of Technology)

**Presenter:** HELE SAVIN (Helsinki University of Technology)

**Session Classification:** Plenary session -Silicon technology for detectors

Contribution ID: 3

Type: **not specified**

# Welcome

*Thursday 2 June 2005 09:00 (20 minutes)*

**Author:** MARA BRUZZI, JAAKKO HAERKOENEN AND MICHAEL MOLL

**Presenter:** MARA BRUZZI, JAAKKO HAERKOENEN AND MICHAEL MOLL

**Session Classification:** Plenary session -Silicon technology for detectors

Contribution ID: 4

Type: **not specified**

## **Admittance spectroscopy study of point defects and nano-clusters in irradiated high-purity silicon**

*Thursday 2 June 2005 10:00 (20 minutes)*

**Author:** KLAUS JOHANSEN (University of Oslo)

**Presenter:** KLAUS JOHANSEN (University of Oslo)

**Session Classification:** Defect and Material Characterization

Contribution ID: 5

Type: **not specified**

## **X defect after Co-60 gamma irradiation**

*Thursday 2 June 2005 10:20 (20 minutes)*

**Author:** FRANK HÖNNIGER (University of Hamburg)

**Presenter:** FRANK HÖNNIGER (University of Hamburg)

**Session Classification:** Defect and Material Characterization

Contribution ID: 6

Type: **not specified**

## **Photoinduced transient spectroscopy of epitaxial silicon irradiated with high proton fluences**

*Thursday 2 June 2005 10:40 (20 minutes)*

**Author:** PAWEL KAMINSKI (Institute of Electronic Materials Technology)

**Presenter:** PAWEL KAMINSKI (Institute of Electronic Materials Technology)

**Session Classification:** Defect and Material Characterization

Contribution ID: 7

Type: **not specified**

## **Irradiation damage in sublimation grown 6H-SiC**

*Thursday 2 June 2005 11:00 (20 minutes)*

**Author:** MADS MIKELSEN (University of Oslo)

**Presenter:** MADS MIKELSEN (University of Oslo)

**Session Classification:** Defect and Material Characterization



Contribution ID: 8

Type: **not specified**

## **Shallow donors in MCz-Si n- and p-type Detectors at different process temperature, irradiation and thermal treatments**

*Thursday 2 June 2005 11:00 (20 minutes)*

**Author:** DAVID MENICHELLI (University of Florence, INFN Florence)

**Presenter:** DAVID MENICHELLI (University of Florence, INFN Florence)

**Session Classification:** Defect Engineering

Contribution ID: 9

Type: **not specified**

## **Numerical simulation of radiation damage effects in p-type silicon detectors**

*Thursday 2 June 2005 11:20 (20 minutes)*

**Author:** MARCO PETASECCA (University of Perugia - DIEI)

**Presenter:** MARCO PETASECCA (University of Perugia - DIEI)

**Session Classification:** Defect Engineering

Contribution ID: 10

Type: **not specified**

## **Detector Recovery/Improvement Via Elevated-temperature-annealing (DRIVE) - A New Approach for Si Detector Applications in High Radiation Environment in SLHC**

*Thursday 2 June 2005 11:40 (20 minutes)*

**Author:** ELENA VERBITSKAYA (Ioffe Physico-Technical Institute RAS)

**Presenter:** ELENA VERBITSKAYA (Ioffe Physico-Technical Institute RAS)

**Session Classification:** Defect Engineering

Contribution ID: 11

Type: **not specified**

## **Radiation tolerant epitaxial silicon detectors of different thickness**

*Thursday 2 June 2005 13:50 (20 minutes)*

**Author:** ECKHART FRETWURST (University of Hamburg)

**Presenter:** ECKHART FRETWURST (University of Hamburg)

**Session Classification:** Pad Detector Characterization

Contribution ID: 12

Type: **not specified**

## **Investigation of voltages and electric fields in silicon radiation detectors using a scanning electron microscope**

*Thursday 2 June 2005 14:10 (20 minutes)*

**Author:** KARI LEINONEN (Lappeenranta University of Technology)

**Presenter:** KARI LEINONEN (Lappeenranta University of Technology)

**Session Classification:** Pad Detector Characterization

Contribution ID: 13

Type: **not specified**

## **Irradiation results of MCZ, thinned and epitaxial detectors**

*Thursday 2 June 2005 14:30 (20 minutes)*

**Author:** ANDREA CANDELORI (INFN Padova)

**Presenter:** ANDREA CANDELORI (INFN Padova)

**Session Classification:** Pad Detector Characterization

Contribution ID: 14

Type: **not specified**

## **Characterization of n and p-type diodes processed on Fz and MCz silicon after irradiation with protons of 24GeV/c and 26 MeV/c and with reactor neutrons**

*Thursday 2 June 2005 14:50 (20 minutes)*

**Author:** NORMAN MANNA (INFN Bari)

**Presenter:** NORMAN MANNA (INFN Bari)

**Session Classification:** Pad Detector Characterization

Contribution ID: 15

Type: **not specified**

## Minimum ionizing particle detector based on p+n junction SiC diode

*Thursday 2 June 2005 16:00 (20 minutes)*

**Author:** FRANCESCO MOSCATELLI (DIEI and INFN Perugia and CNR-IMM Bologna)

**Presenter:** FRANCESCO MOSCATELLI (DIEI and INFN Perugia and CNR-IMM Bologna)

**Session Classification:** New Materials



Contribution ID: 16

Type: **not specified**

## **Properties of 12 micron thick epitaxial GaN irradiated up to $1 \times 10^{16} \text{ cm}^{-2}$ by 24 GeV protons**

*Thursday 2 June 2005 16:20 (20 minutes)*

**Author:** JUOZAS VAITKUS (Vilnius University)

**Presenter:** JUOZAS VAITKUS (Vilnius University)

**Session Classification:** New Materials

Contribution ID: 17

Type: **not specified**

## **I-V & CCE Characterisation of Proton Irradiated 12 Micron Epitaxial GaN Detectors**

*Thursday 2 June 2005 16:40 (20 minutes)*

**Author:** JAMES GRANT (University of Glasgow)

**Presenter:** JAMES GRANT (University of Glasgow)

**Session Classification:** New Materials

Contribution ID: **18**

Type: **not specified**

**COMPARISON OF SHALLOW DONOR  
FORMATION AND RADIATION DEFECT  
ELIMINATION IN HYDROGENATED PARTICLE  
DETECTORS MADE OF STANDARD AND  
DIFFUSION OXYGENATED SILICON**

*Thursday 2 June 2005 17:00 (20 minutes)*

**Author:** LEONID MAKARENKO ((Belarusian State University))

**Presenter:** LEONID MAKARENKO ((Belarusian State University))

**Session Classification:** New Materials

Contribution ID: **19**

Type: **not specified**

# **EVALUATION OF OXYGEN AND CARBON CONTENT IN STANDARD FLOAT ZONE SILICON DETECTORS**

*Thursday 2 June 2005 17:20 (20 minutes)*

**Author:** LEONID MAKARENKO ((Belarusian State University))

**Presenter:** LEONID MAKARENKO ((Belarusian State University))

**Session Classification:** New Materials

Contribution ID: 20

Type: **not specified**

## **Neutron-induced activity studies of the ATLAS SCT strip detector module, glues and paint**

*Friday 3 June 2005 09:00 (20 minutes)*

**Author:** VLADIMIR LINHART (Czech Technical University in Prague)

**Presenter:** VLADIMIR LINHART (Czech Technical University in Prague)

**Session Classification:** Full Detector Systems

Contribution ID: **21**

Type: **not specified**

## **Prospects and Benefits of Freiburg joining RD50**

*Friday 3 June 2005 11:55 (20 minutes)*

**Author:** ULRICH PARZEFALL

**Presenter:** ULRICH PARZEFALL

**Session Classification:** Full Detector Systems

Contribution ID: 22

Type: **not specified**

## **Radiation Effects Facility (RADEF) at Jyväskylä**

*Friday 3 June 2005 12:15 (20 minutes)*

**Author:** ARI VIRTANEN (University of Jyväskylä)

**Presenter:** ARI VIRTANEN (University of Jyväskylä)

**Session Classification:** Full Detector Systems

Contribution ID: 23

Type: **not specified**

## Updated double junction simulation of CMS pixel test beam data

*Friday 3 June 2005 09:20 (20 minutes)*

**Author:** MORRIS SWARTZ (Johns Hopkins University)

**Presenter:** MORRIS SWARTZ (Johns Hopkins University)

**Session Classification:** Full Detector Systems



Contribution ID: 24

Type: **not specified**

## Test Beam Results of Proton Irradiated Czochralski Silicon Strip Detector

*Friday 3 June 2005 09:40 (20 minutes)*

**Author:** PANJA LUUKKA (Helsinki Institute of Physics)

**Presenter:** PANJA LUUKKA (Helsinki Institute of Physics)

**Session Classification:** Full Detector Systems

Contribution ID: 25

Type: **not specified**

## Radiation Testing of bipolar SiGe transistors

*Friday 3 June 2005 10:00 (20 minutes)*

**Author:** HARTMUT F.-W. SADROZINSKI (SCIPP, UC Santa Cruz)

**Presenter:** HARTMUT F.-W. SADROZINSKI (SCIPP, UC Santa Cruz)

**Session Classification:** Full Detector Systems

Contribution ID: 26

Type: **not specified**

## **Update of annealing measurements on heavily irradiated p-type sensors**

*Friday 3 June 2005 10:20 (20 minutes)*

**Author:** GIANLUIGI CASSE (University of Liverpool)

**Presenter:** GIANLUIGI CASSE (University of Liverpool)

**Session Classification:** Full Detector Systems

Contribution ID: 27

Type: **not specified**

## Laser Tests of Silicon Strip Sensors

*Friday 3 June 2005 10:40 (20 minutes)*

**Author:** PETER KODYS (Charles University, Prague)

**Presenter:** PETER KODYS (Charles University, Prague)

**Session Classification:** Full Detector Systems

Contribution ID: 28

Type: **not specified**

## **P-spray implant optimization for P-type microstrip detectors.**

*Friday 3 June 2005 10:55 (20 minutes)*

**Author:** CELESTE FLETA (CNM Barcelona)

**Presenter:** CELESTE FLETA (CNM Barcelona)

**Session Classification:** Full Detector Systems

Contribution ID: 29

Type: **not specified**

## 2D simulation of n-on-p strip detectors with different p-stop and p-spray structures

*Friday 3 June 2005 11:15 (20 minutes)*

**Author:** TANJA PALVIAINEN (Lappeenranta University of Technology)

**Presenter:** TANJA PALVIAINEN (Lappeenranta University of Technology)

**Session Classification:** Full Detector Systems

Contribution ID: 30

Type: **not specified**

**Irradiation of Fz and MCz mini-sensors of n and p-type with 24 GeV/c and 26 MeV/c protons up to fluences of  $3.0 \times 10^{15}$  1MeV n/cm<sup>2</sup>. Irradiation of Fz and MCz mini-sensors of n and p-type with 24 GeV/c and**

*Friday 3 June 2005 11:35 (20 minutes)*

**Author:** ALBERTO MESSINEO (Pisa University)

**Presenter:** ALBERTO MESSINEO (Pisa University)

**Session Classification:** Full Detector Systems

Contribution ID: 31

Type: **not specified**

## **New Single-sided 2d and (2+3)d Stripixel Detectors: Concept, Simulation, and Design**

*Saturday 4 June 2005 10:30 (20 minutes)*

**Author:** ZHENG LI

**Presenter:** ZHENG LI

**Session Classification:** New Structures



Contribution ID: 32

Type: **not specified**

## Measurement of MCz sensors

*Saturday 4 June 2005 10:50 (20 minutes)*

**Author:** DANIELA BORTOLETTO (purdue)

**Presenter:** DANIELA BORTOLETTO (purdue)

**Session Classification:** New Structures

Contribution ID: 33

Type: **not specified**

## Annealing studies on Sintef sensors

*Saturday 4 June 2005 10:50 (20 minutes)*

**Author:** DANIELA BORTOLETTO (purdue)

**Presenter:** DANIELA BORTOLETTO (purdue)

**Session Classification:** New Structures