

TWEPP 2020 User Group Meetings

Report of Contributions

Contribution ID: 1

Type: **not specified**

Project Overview: brief recap

Monday 21 September 2020 14:00 (15 minutes)

Presenter: VASEY, Francois (CERN)

Session Classification: LpGBT and Opto-electronics

Contribution ID: 2

Type: **not specified**

VTRx+ front-end module

Monday 21 September 2020 15:00 (45 minutes)

- Status Report
- Q&A

Presenter: TROSKA, Jan (CERN)

Session Classification: LpGBT and Opto-electronics

Contribution ID: 3

Type: **not specified**

Passive fiber plant

Monday 21 September 2020 15:45 (45 minutes)

- Status Report
- Q&A

Presenter: TOCCAFONDO, Iacopo (CERN)

Session Classification: LpGBT and Opto-electronics

Contribution ID: 4

Type: **not specified**

Introduction

Wednesday 23 September 2020 14:00 (10 minutes)

Presenters: WYLLIE, Ken (CERN); DANZECA, Salvatore (CERN)

Session Classification: FPGA user group meeting

Contribution ID: 5

Type: **not specified**

FPGA testing methodologies

Wednesday 23 September 2020 14:45 (30 minutes)

Presenter: STERPONE, Luca (Politecnico di Torino)

Session Classification: FPGA user group meeting

Contribution ID: 6

Type: **not specified**

Alice ITS FPGA radiation qualification

Wednesday 23 September 2020 15:20 (20 minutes)

Presenter: LUPI, Matteo (CERN / Johann-Wolfgang-Goethe Univ. (DE))

Session Classification: FPGA user group meeting

Contribution ID: 7

Type: **not specified**

NanoExplore Rad-Hard commercial FPGA

Wednesday 23 September 2020 15:45 (20 minutes)

Presenter: FERRARO, Rudy (CERN)

Session Classification: FPGA user group meeting

Contribution ID: 8

Type: **not specified**

Radiation-tolerant Multi-gigabit Serial Links Based on FPGAs

Wednesday 23 September 2020 16:10 (20 minutes)

Presenter: GIORDANO, Raffaele

Session Classification: FPGA user group meeting

Contribution ID: 9

Type: **not specified**

Rad-Tol RISC-V Soft Core

Wednesday 23 September 2020 16:35 (20 minutes)

Presenter: RIZZI, Mattia (CERN)

Session Classification: FPGA user group meeting

Contribution ID: **10**

Type: **not specified**

Polarfire Radiation testing

Session Classification: FPGA user group meeting

Contribution ID: 11

Type: **not specified**

FPGA On-board Power Management

Wednesday 23 September 2020 14:15 (30 minutes)

Presenter: CACHEMICHE, Jean-Pierre (Centre National de la Recherche Scientifique (FR))

Session Classification: FPGA user group meeting

Contribution ID: **12**

Type: **not specified**

CERN-B Firefly module

Monday 21 September 2020 16:30 (15 minutes)

- Q&A

Presenter: VASEY, Francois (CERN)

Session Classification: LpGBT and Opto-electronics

Contribution ID: **13**

Type: **not specified**

AOB

Monday 21 September 2020 16:45 (15 minutes)

Presenter: VASEY, Francois (CERN)

Session Classification: LpGBT and Opto-electronics

Contribution ID: **14**

Type: **not specified**

Welcome

Tuesday 22 September 2020 14:00 (10 minutes)

Presenter: KLOUKINAS, Kostas (CERN)

Session Classification: Micro-electronic user group

Contribution ID: 15

Type: **not specified**

ASIC support & Foundry Services News

Tuesday 22 September 2020 14:10 (20 minutes)

Presenter: CARATELLI, Alessandro (CERN, EPFL)

Session Classification: Micro-electronic user group

Contribution ID: **16**

Type: **not specified**

CHIPS: CERN-HEP IC design Platform and Services

Tuesday 22 September 2020 14:30 (20 minutes)

Presenter: LLOPART CUDIE, Xavi (CERN)

Session Classification: Micro-electronic user group

Contribution ID: 17

Type: **not specified**

EP R&D WP: CMOS Technologies for Future Experiments

Tuesday 22 September 2020 14:50 (20 minutes)

Presenter: KLOUKINAS, Kostas (CERN)

Session Classification: Micro-electronic user group

Contribution ID: **18**

Type: **not specified**

EUROPRACTICE EDA Tools for the HEP Community

Tuesday 22 September 2020 15:40 (30 minutes)

Presenter: MANAGER, EUROPRACTICE DESIGN TOOLS

Session Classification: Micro-electronic user group

Contribution ID: 19

Type: **not specified**

Semiconductor process selection from ESD perspective: FinFET, SOI or CMOS?

Tuesday 22 September 2020 16:10 (30 minutes)

Many fabless companies struggle with the selection of their next process platform: FinFET or thin film SOI or in CMOS?

Though on-chip protection against Electrostatic discharge (ESD) should not determine the choice of technology, it can impact design choices and ultimately cost of the product. For efficient ESD protection, 2 elements are important: the ESD strategy, and the vulnerability of the circuit. The clamp design lays bare the underlying technology restrictions: the SOI BOX limits heat dissipation, even worse in FinFET designs. Techniques to circumvent the issue lead to unacceptable DRC/LVS violations. Also, the transistor characteristics under ESD conditions are heavily influenced by the Fins and BOX. Design margins are shrinking, and I/O topological decisions have different results in FinFETs, SOI or CMOS.

In the presentation device architecture and measurement data is used to compare 16nm FinFET, 22nm CMOS and 22nm SOI from the perspective of ESD robustness and I/O design.

Presenter: Mr VAN CAMP, CTO SOFICS, Benjamin (SOFICS solutions for ICs)

Session Classification: Micro-electronic user group

Contribution ID: **20**

Type: **not specified**

Open Discussion

Tuesday 22 September 2020 16:40 (20 minutes)

Session Classification: Micro-electronic user group

Contribution ID: **21**

Type: **not specified**

LpGBT

Monday 21 September 2020 14:15 (45 minutes)

- Status Report
- Q&A

Presenters: RODRIGUES SIMOES MOREIRA, Paulo (CERN); VICENTE LEITAO, Pedro (CERN); KULIS, Szymon (CERN)

Session Classification: LpGBT and Opto-electronics

Contribution ID: 22

Type: **not specified**

Introduction

Thursday 24 September 2020 14:00 (10 minutes)

Presenters: CHEN, Hucheng (Brookhaven National Laboratory (US)); HANSEN, Magnus (CERN)

Session Classification: Power user group

Contribution ID: 23

Type: **not specified**

ATLAS LAr LVPS development

Session Classification: Power user group

Contribution ID: 24

Type: **not specified**

ATLAS Tile LVPS development

Thursday 24 September 2020 17:00 (25 minutes)

Presenter: MOAYEDI, Seyedali (University of Texas at Arlington (US))

Session Classification: Power user group

Contribution ID: 25

Type: **not specified**

Development of radiation tolerant 48V-11V DC/DC converter for the ATLAS ITk Strip detector

Thursday 24 September 2020 16:10 (25 minutes)

Presenter: DABROWSKI, Wladyslaw (AGH University of Science and Technology (PL))

Session Classification: Power user group

Contribution ID: 26

Type: **not specified**

Serial power design and test results for ATLAS Pixel detector

Thursday 24 September 2020 15:10 (25 minutes)

Presenter: HAMER, Matthias (University of Bonn (DE))

Session Classification: Power user group

Contribution ID: 27

Type: **not specified**

Serial power design and test results for CMS Inner Tracker

Thursday 24 September 2020 15:35 (25 minutes)

Presenter: ORFANELLI, Stella (CERN)

Session Classification: Power user group

Contribution ID: **28**

Type: **not specified**

BPOL DCDC converter family development and production status

Thursday 24 September 2020 14:10 (25 minutes)

Presenter: RIPAMONTI, Giacomo (CERN)

Session Classification: Power user group

Contribution ID: 29

Type: **not specified**

Power Supply procurement progress

Thursday 24 September 2020 14:55 (15 minutes)

Presenter: BOBILLIER, Vincent (CERN)

Session Classification: Power user group

Contribution ID: **30**

Type: **not specified**

CMS Outer Tracker power system requirements, design, and procurement

Thursday 24 September 2020 16:35 (25 minutes)

Presenter: PAOLETTI, Simone (Universita e INFN, Firenze (IT))

Session Classification: Power user group

Contribution ID: **31**

Type: **not specified**

CMS common LVPS requirements, design, and procurement

Thursday 24 September 2020 17:25 (25 minutes)

Presenter: STACHON, Krzysztof (ETH Zurich (CH))

Session Classification: Power user group

Contribution ID: **32**

Type: **not specified**

CMS HGCal LDO development status

Thursday 24 September 2020 14:35 (20 minutes)

Presenter: MARCHIORO, Alessandro (CERN)

Session Classification: Power user group

Contribution ID: 33

Type: **not specified**

28nm CMOS Mixed Signal Design Kit

Tuesday 22 September 2020 15:10 (15 minutes)

Presenter: Ms FIORITI, Alessandra (CERN)

Session Classification: Micro-electronic user group