

# COMPASS DAQFEET 2019



## Report of Contributions

Contribution ID: 1

Type: **not specified**

## Possible COMPASS software improvements during LS2

*Tuesday 12 February 2019 16:40 (20 minutes)*

LS2 presents a fitting time to revisit and rework existing software concepts and architectures used at COMPASS. Going beyond the DAQ software itself, this talk will explore pitfalls in current COMPASS software architectures, databases, and user interfaces. A number of potential projects to alleviate these pitfalls will be presented. The aim of this talk is to start a long-term discussion to assess the feasibility and priority of the given projects.

**Primary author:** KVETON, Antonin (Charles University (CZ))

**Presenter:** KVETON, Antonin (Charles University (CZ))

**Session Classification:** Trigger-less DAQ

Contribution ID: 2

Type: **not specified**

## COMPASS support software tools

*Tuesday 12 February 2019 17:00 (20 minutes)*

Recently, new software support tools (such as the electronic checklist and the shift manager) have been introduced to the COMPASS experiment. They should help shifters and other members with their responsibilities. This contribution will briefly introduce these tools and summarize their benefits. Moreover, it will present several brand new support tools that are currently under development and will be deployed during the long shutdown.

**Primary author:** ZEMKO, Martin (Charles University (CZ))

**Presenter:** ZEMKO, Martin (Charles University (CZ))

**Session Classification:** Trigger-less DAQ

Contribution ID: 3

Type: **not specified**

## Spin Physics Detector at the NICA collider in Dubna

Spin Physics Detector (SPD) is to be built at collider NICA, which construction is well underway in the Joint Institute for Nuclear Research, Dubna, Moscow region. A wide program of experiments with polarized protons and deuterons will be realized with SPD. SPD is a  $4\pi$  detector with magnetic system and a set of detectors providing coordinate, time and energy measurements in conditions of high luminosity. The data acquisition system of SPD is planned to be close to the modernized COMPASS DAQ. The SPD collaboration is in the state of formation and new participants are welcome.

**Primary author:** KULIKOV, Anatoly (JINR, Dubna)

**Co-author:** ON BEHALF OF THE SPD WORKING GROUP

**Presenter:** KULIKOV, Anatoly (JINR, Dubna)

**Session Classification:** Invited Talks

Contribution ID: 4

Type: **not specified**

## Opening remarks

*Monday 11 February 2019 09:00 (10 minutes)*

**Session Classification:** COMPASS

Contribution ID: 5

Type: **not specified**

## **COMPASS and COMPASS++ Physics Program after LS2**

*Monday 11 February 2019 09:10 (30 minutes)*

**Presenter:** VAUTH, Annika (University of Bonn (DE))

**Session Classification:** COMPASS

Contribution ID: 6

Type: **not specified**

## COMPASS iFDAQ Performance

*Monday 11 February 2019 09:40 (20 minutes)*

**Presenter:** NOVY, Josef (Czech Technical University (CZ))

**Session Classification:** COMPASS

Contribution ID: 7

Type: **not specified**

## Cross-Switch

*Monday 11 February 2019 10:00 (20 minutes)*

**Presenter:** STEFFEN, Dominik (Technische Universitaet Muenchen (DE))

**Session Classification:** COMPASS



Contribution ID: 8

Type: **not specified**

## **CEDAR Performance during 2018 Run**

*Monday 11 February 2019 11:00 (20 minutes)*

**Presenter:** VEIT, Benjamin Moritz (Johannes Gutenberg Universitaet Mainz (DE))

**Session Classification:** COMPASS

Contribution ID: 9

Type: **not specified**

## **Trigger Less DAQ : Architecture and Challenges**

*Tuesday 12 February 2019 09:20 (20 minutes)*

**Presenter:** KONOROV, Igor (Technische Universitaet Muenchen (DE))

**Session Classification:** Trigger-less DAQ

Contribution ID: 10

Type: **not specified**

# Unified Communication Framework

*Monday 11 February 2019 11:40 (20 minutes)*

**Presenter:** HUBER, Stefan (Technische Universitaet Muenchen (DE))

**Session Classification:** COMPASS

Contribution ID: 11

Type: **not specified**

## **iFTDC Architecture and Status**

**Presenter:** KONOROV, Igor (Technische Universitaet Muenchen (DE))

**Session Classification:** COMPASS

Contribution ID: 12

Type: **not specified**

## **iFDAQ XCKU Card**

*Monday 11 February 2019 12:00 (20 minutes)*

**Presenter:** GAISBAUER, Dominic (TU München)

**Session Classification:** COMPASS

Contribution ID: 13

Type: **not specified**

## SRS VMM: A next generation generic readout system

*Tuesday 12 February 2019 11:30 (20 minutes)*

The Scalable Readout System (SRS) of the RD51 collaboration with the APV25 ASIC is driving R&D for gaseous detectors. Discontinuation of APV25 and demands on flexibility concerning e.g. detector capacitance and readout rate induced a replacement of the ASIC, for which the collaboration has chosen the VMM chip of the ATLAS New Small Wheel upgrade.

Several prototype SRS VMM systems are operational with small GEM detectors and were used at test beams. Hardware components are now finalised in the transition phase from development to larger quantities production. More than twelve groups signed as primary system users.

The SRS as well as the VMM ASIC will be introduced, followed by an overview of the specific implementation of the ASIC into the system and its current status.

Finally, applications and further developments will be outlined.

**Primary author:** LUPBERGER, Michael (CERN)

**Presenter:** LUPBERGER, Michael (CERN)

**Session Classification:** Invited Talks

Contribution ID: 14

Type: **not specified**

## **A hydrogen-filled TPC as an active target for a proton-radius measurement**

*Monday 11 February 2019 14:20 (20 minutes)*

**Presenter:** Dr KISELEV, Oleg (GSI Darmstadt)

**Session Classification:** COMPASS

Contribution ID: 15

Type: **not specified**

## **Status of NUSTAR R3B detector readout**

*Monday 11 February 2019 14:40 (20 minutes)*

**Presenter:** TOERNQVIST, Hans (GSI)

**Session Classification:** COMPASS



Contribution ID: 16

Type: **not specified**

## **Proton Radius in High-Energy Muon Scattering**

*Monday 11 February 2019 14:00 (20 minutes)*

**Presenter:** Mr DREISBACH, Christian (Technische Universitaet Muenchen (DE))

**Session Classification:** COMPASS

Contribution ID: 17

Type: **not specified**

## **MuPix8 Pixel Detector**

*Monday 11 February 2019 16:45 (15 minutes)*

**Presenter:** MYNTER, Max Raphael (Technische Universitaet Muenchen (DE))

**Session Classification:** COMPASS

Contribution ID: **18**

Type: **not specified**

## **SciFi Trecking Detector**

*Monday 11 February 2019 17:00 (20 minutes)*

**Presenter:** LOSEKAMM, Martin Jan (Technische Universitaet Muenchen (DE))

**Session Classification:** COMPASS

Contribution ID: 19

Type: **not specified**

# Low Noise High Integration Electronics for TPC

*Monday 11 February 2019 15:00 (20 minutes)*

**Presenter:** NEYRET, Damien (Université Paris-Saclay (FR))

**Session Classification:** COMPASS

Contribution ID: **20**

Type: **not specified**

## **iFTDC**

*Monday 11 February 2019 11:20 (20 minutes)*

**Presenter:** KONOROV, Igor (Technische Universitaet Muenchen (DE))

**Session Classification:** COMPASS

Contribution ID: 21

Type: **not specified**

# Trigger Processor I

*Tuesday 12 February 2019 09:40 (40 minutes)*

**Presenter:** VEIT, Benjamin Moritz (Johannes Gutenberg Universitaet Mainz (DE))

**Session Classification:** Trigger-less DAQ

Contribution ID: 22

Type: **not specified**

## **On-line Pulse Parameterization based on Waveforms**

*Tuesday 12 February 2019 14:00 (20 minutes)*

**Presenter:** ZIEMBICKI, Marcin (Warsaw University of Technology (PL))

**Session Classification:** Invited Talks

Contribution ID: 23

Type: **not specified**

## Data Compression Techniques

*Tuesday 12 February 2019 14:20 (20 minutes)*

**Presenter:** PASTUSZAK, Grzegorz (WUT)

**Session Classification:** Invited Talks



Contribution ID: 24

Type: **not specified**

## **Efficient FIR Filter Implementation in FPGAs**

*Tuesday 12 February 2019 14:40 (20 minutes)*

**Presenter:** SUCHENEK, Mariusz (AstrCeNT)

**Session Classification:** Invited Talks

Contribution ID: 25

Type: **not specified**

## **Xilinx Zinq FPGA Experience and Performance**

*Tuesday 12 February 2019 15:00 (20 minutes)*

**Presenter:** GARCIA, Luis (ICTP/INFN)

**Session Classification:** Invited Talks

Contribution ID: 26

Type: **not specified**

## **Spin Physics Detector at the NICA collider in Dubna**

*Tuesday 12 February 2019 11:50 (30 minutes)*

**Presenter:** KULIKOV, Anatoli (Joint Institute for Nuclear Research (JINR))

**Session Classification:** Invited Talks

Contribution ID: 29

Type: **not specified**

## ToAST ASIC developmnet

*Monday 11 February 2019 16:05 (20 minutes)*

**Presenter:** MAZZA, Gianni (Universita e INFN Torino (IT))

**Session Classification:** COMPASS

Contribution ID: **30**

Type: **not specified**

## **Monolithic Active Pixel Sensors on high resistivity substrates: status and perspective**

*Monday 11 February 2019 16:25 (20 minutes)*

**Presenter:** DA ROCHA ROLO, Manuel Dionisio (Universita e INFN Torino (IT))

**Session Classification:** COMPASS

Contribution ID: **31**

Type: **not specified**

## **ATLAS DAQ from Run 2 to HL-LHC**

*Tuesday 12 February 2019 11:00 (30 minutes)*

**Presenter:** PANDURO VAZQUEZ, William (Royal Holloway, University of London)

**Session Classification:** Invited Talks

Contribution ID: 32

Type: **not specified**

## Freiburg University Contribution

*Tuesday 12 February 2019 09:00 (20 minutes)*

**Presenter:** FISCHER, Horst (Albert Ludwigs Universitaet Freiburg (DE))

**Session Classification:** Trigger-less DAQ

Contribution ID: 33

Type: **not specified**

## **Round Table, Discussion, Plans**

*Wednesday 13 February 2019 09:00 (1h 30m)*

**Session Classification:** COMPASS



Contribution ID: **34**

Type: **not specified**

## **Plans for DAQ software beyond LS2**

*Tuesday 12 February 2019 16:00 (40 minutes)*

**Presenter:** NOVY, Josef (Czech Technical University (CZ))

**Session Classification:** Trigger-less DAQ

Contribution ID: 35

Type: **not specified**

## Conclusion remarks and discussion

*Wednesday 13 February 2019 11:00 (20 minutes)*

**Presenter:** KONOROV, Igor (Technische Universitaet Muenchen (DE))

**Session Classification:** Closing Sessions