COMPASS DAQFEET 2019

Monday, 11 February 2019 - Wednesday, 13 February 2019

Other Institutes

Book of Abstracts

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Possible COMPASS software improvements during LS2

Author: Antonin Kveton[1]

[1] *Charles University (CZ)*

Corresponding Author: antonin.kveton@cern.ch

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.

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COMPASS support software tools

Author: Martin Zemko[1]

[1] *Charles University (CZ)*

Corresponding Author: martin.zemko@cern.ch

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 sumarize their benefits. Moreover, it will present several brand new support tools that are currently under development and will be deployed during the long shutdown.

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Spin Physics Detector at the NICA collider in Dubna

Author: Anatoly Kulikov[1]

Co-author: on behalf of the SPD working group

[1] *JINR, Dubna*

Corresponding Author: koulikov@jinr.ru

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 4π 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.

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COMPASS and COMPASS++ Physics Program after LS2

Corresponding Author: annika.vauth@cern.ch

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COMPASS iFDAQ Performance

Corresponding Author: josef.novy@cern.ch

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Cross-Switch

Corresponding Author: dominik.steffen@cern.ch

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CEDAR Performance during 2018 Run

Corresponding Author: b.veit@cern.ch

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Trigger Less DAQ : Architecture and Challenges

Corresponding Author: igor.konorov@cern.ch

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Unified Communication Framework

Corresponding Author: stefan.huber@cern.ch

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iFTDC Architecture and Status

Corresponding Author: igor.konorov@cern.ch

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iFDAQ XCKU Card

Corresponding Author: d.gaisbauer@tum.de

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SRS VMM: A next generation generic readout system

Author: Michael Lupberger[1]

[1] *CERN*

Corresponding Author: michael.lupberger@cern.ch

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.

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

Corresponding Author: o.kiselev@gsi.de

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Status of NUSTAR R3B detector readout

Corresponding Author: h.toernqvist@gsi.de

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Proton Radius in High-Energy Muon Scattering

Corresponding Author: christian.dreisbach@cern.ch

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MuPix8 Pixel Detector

Corresponding Author: max.raphael.mynter@cern.ch

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SciFi Trecking Detector

Corresponding Author: martin.losekamm@cern.ch

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Low Noise High Integration Electronics for TPC

Corresponding Author: damien.neyret@cern.ch

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iFTDC

Corresponding Author: igor.konorov@cern.ch

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Trigger Processor I

Corresponding Author: b.veit@cern.ch

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On-line Pulse Parameterization based on Waveforms

Corresponding Author: marcin.ziembicki@cern.ch

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Data Compression Techniques

Corresponding Author: g.pastuszak@ire.pw.edu.pl

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Efficient FIR Filter Implementation in FPGAs

Corresponding Author: msu@op.pl

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Xilinx Zinq FPGA Experience and Performance

Corresponding Author: lggarcia2742@gmail.com

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Spin Physics Detector at the NICA collider in Dubna

Corresponding Author: anatoli.koulikov@cern.ch

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ToAST ASIC developmnet

Corresponding Author: gmzzcms@cern.ch

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

Corresponding Author: manuel.rolo@cern.ch

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ATLAS DAQ from Run 2 to HL-LHC

Corresponding Author: j.panduro.vazquez@cern.ch

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Freiburg University Contribution

Corresponding Author: horst.fischer@cern.ch

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Round Table, Discussion, Plans

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Plans for DAQ software beyond LS2

Corresponding Author: josef.novy@cern.ch

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Conclusion remarks and discussion

Corresponding Author: igor.konorov@cern.ch