

# ACES 2020 - Seventh Common ATLAS CMS Electronics Workshop for LHC Upgrades



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## SoC Based DAQ for Pixel RD53a/b Tests

*Thursday 28 May 2020 10:00 (30 minutes)*

The RCE (Reconfigurable Cluster Element) platform is a general-purpose system-on-chip design data acquisition system, deployed by many experiments like ATLAS, LCLS, LSST, HPS, and ProtoDUNE. We present a new generation bench-top RCE system, including a Xilinx UltraScale+ MPSoC board and a custom FMC adaptor card, which is a prototype pixel readout chips for the Phase II upgrade of ATLAS and CMS. According to measurement, the ARM NEON SIMD can increase the software speed for raw data decoding by 100%-200%. An ATCA blade to support a large number of Rd53a is also presented.

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