MATTER AND TECHNOLOGIES

Contribution ID: **117** Type: **Poster without speed talk**

RFSoC as an Software-Defined Radio (SDR) Readout System for Magnetic Microcalorimeters (MMCs)

Arrays of superconducting sensors enable particle spectrum analysis with superior energy resolution. To efficiently acquire data from these sensors, the readout electronics operating at room temperature must perform multiple tasks, such as real-time frequency demodulation. We designed a Software-Defined Radio (SDR) system composed of an MPSoC board, an analog-to-digital conversion stage, and a radio frequency front-end mixing stage to meet the system requirements. Nevertheless, utilizing an Radio Frequency System-on-Chip (RFSoC) could simplify the overall system by integrating the conversion stage and potentially eliminating the mixing stage. This work investigates the applicability of RFSoCs for the aforementioned use case.

Speed Talks

I am unable/unwilling to give a speedtalk.

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