Contribution ID: **76** Type: **not specified**

RFSoC-Base LLRF Development for CSNS-II LINAC

Tuesday, 16 September 2025 09:00 (20 minutes)

RFSOC (Radio Frequency System-on-Chip) integrates FPGA, ARM processors, RF analog-to-digital converters (RF ADCs), and RF digital-to-analog converters (RF DACs) onto a single chip, representing a third-generation leap in hardware technology following the shift from analog to digital circuits. Applying RFSOC to accelerator systems significantly enhances operational efficiency while substantially reducing development complexity, hardware maintenance burden, and overall cost. This report will survey recent progress in utilizing RFSOC for accelerator applications, analyze relevant performance metrics, and present research and implementation work concerning RFSOC in the LLRF system of the China Spallation Neutron Source (CSNS) linear accelerator.

Primary authors: XIE, Zhexin (高能所,CSNS); MU, Zhencheng; GUO, Kai; TAN, Zheyu; WAN, Maliang; ZHANG, Hui; WANG, Hexin; WANG, Bo; RONG, linyan

Presenter: XIE, Zhexin (高能所,CSNS)

Session Classification: Session