

Status of the development of the new digital LLRF for ALBA Synchrotron Light facility

Thursday 29 August 2024 16:00 (2 hours)

One of the crucial control systems of any synchrotron is the Low-Level Radio Frequency (LLRF). The main purpose of an LLRF is to generate and maintain a stable electric field within the accelerator cavities by controlling its amplitude and phase.

SAFRAN Electronic & Defense Spain S.L.U. is currently developing the new digital LLRF to update the system in the ALBA Synchrotron Light facility located in Barcelona. The design, implementation and tests are based on ALBA technical specifications. It is expected that the system will be tested on site, in its 500 MHz version, by summer 2024 while the 1.5 GHz (third harmonic version) will be tested on site by the first quarter of 2025. The architecture, design, and development as well as the performance of the LLRF system will be presented in this work.

Footnotes

Funding Agency

NextGenerationEU

Plan de Recuperación, Transformación y Resiliencia. Gobierno de España

Author: GIL, Pilar (Safran Electronics & Defense Spain S.L.)

Co-authors: PEREZ, Francis (ALBA-CELLS Synchrotron); BENAVIDES, Javier (Safran Electronics & Defense Spain S.L.); FERNÁNDEZ, Juan (Safran Electronics & Defense Spain S.L.); Mr SOLANS, Pol (ALBA-CELLS Synchrotron)

Presenter: GIL, Pilar (Safran Electronics & Defense Spain S.L.)

Session Classification: Thursday Poster Session

Track Classification: MC4: Technology: MC4.4 Low level RF