

New developments of an LLRF control system for superconducting cavities at IPNO

Within the framework of the current research programs on High Intensity Proton Accelerators, a first collaboration with the CNRS/LPNHE Lab has given one PXI's version of a Low Level Radio Frequency Digital system used for our R & D on superconducting cavities. Today a new development of an LLRF digital system is in progress at IPN Orsay, around an in-house mother board with a FPGA and an ARM processor with a LINUX OS and EPICS IOC. All sub-systems needed for operating on accelerator are also in progress in the framework of several projects at IPNO, as the Cold Tuning System digital controller developed with ADEX© (MAX project), the analogue Self Exciting Loop for RFQ for example (MYRRHA project) and the interlock system including multipactor detection and measurements (SPARE project). Our goals are also to use atypical technologies as ETHERNET for the communication and supply link (PoE) for example. This poster focuses on the global developments: details of each sub-system with the associated project, the main options will be implemented and the schedule.

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