

Development Status of LLRF System for KOMAC

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A 100-MeV proton accelerator has been developed, and the beam service started at the Korea Multi-purpose Accelerator Complex (KOMAC) in July 2013. The accelerator consists of a 50-keV proton injector, a 3-MeV radio-frequency quadrupole (RFQ) and a 100-MeV drift tube linacs (DTLs). Total 9 pulsed klystrons with 1.6 MW_{peak} are used to provide RF power to the cavities with 350 MHz of operating frequency. As the demand for high intensity beam service increased, the feedforward controller was implemented to mitigate the heavy beam loading effect. This paper introduces the concept of a feedforward controller for KOMAC as well as the experimental results performed in low-level RF (LLRF) teststand and 100-MeV linac. In addition, a LLRF system for a newly developed 200-MHz RFQ, based on non-IQ sampling technique will be presented briefly.

Keyword

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