

Implementation of high power RF auto start logic for 100 MeV proton linac at KOMAC

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KOMAC (Korea Multi-purpose Accelerator Complex) of KAERI has operated the 100 MeV proton linear accelerator since 2013. To accelerate the proton beam, the high power RF is delivered to the cavities using 1.6 MW, 350 MHz klystrons.

KOMAC has started 24-hour user service since August 2024. In order to reduce the operational burden on accelerator operators, we have developed a system that can automatically boost high power RF. In addition, in the event of an unexpected stop of the high power RF system, the status of the RF system and accelerator system can be self-diagnosed to automatically resume high power RF operation. This system was named auto start logic at KOMAC, and this auto start logic includes the klystron automatic operation, modulator automatic operation, and high power RF automatic operation.

In this paper, the algorithm of auto start logic is presented with a sequence flow chart. And experimental results tested at the high power RF system of 100 MeV linac are also introduced.

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Best Presentation

Contribution track

ICABU WG3. Beamline and Instrumentation

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