



Contribution ID: 116

Type: **Poster presentation**

IFMIF EVEDA RFQ LOCAL CONTROL SYSTEM

Friday, June 10, 2016 10:30 AM (1h 35m)

In the IFMIF EVEDA project, normal conducting Radio Frequency Quadrupole (RFQ) is used to bunch and accelerate a 130 mA steady beam to 5 MeV. RFQ cavity is divided into three structures, named super-modules. Each super-module is divided into 6 modules for a total of 18 modules for the overall structure. The final three modules have to be tested at high power to test and validate the most critical RF components of RFQ cavity and, on the other hand, to test performances of the main ancillaries that will be used for IFMIF EVEDA project (vacuum manifold system, tuning system and control system). The choice of the last three modules is due to the fact that they will operate in the most demanding conditions in terms of power density (100 kW/m) and surface electric field ($1.8 \cdot E_{kp}$). The Experimental Physics and Industrial Control System (EPICS) environment provides the framework for monitoring any equipment connected to it. This paper reports the usage of EPICS and industrial controls to the RFQ power tests at Legnaro National Laboratories.

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Session Classification: Poster Session 2

Track Classification: Control, Monitoring, Test and Real Time Diagnostics Systems