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First installation of the upgraded vacuum control system for ALPI accelerator

Monday 8 May 2023 16:30 (2 hours)

At LNL (Laboratori Nazionali di Legnaro), the vacuum system of ALPI (Acceleratore Lineare Per Ioni) accelerator includes about 40 pumping groups installed in the 90s. Obsolescence and rigidity of the used hardware and deficit of spare parts required a complete renovation of the system and relative controls. In 2022 we made the first steps of the system renovation with the development and installation of the new high level control system part based on EPICS (Experimental Physics and Industrial Control System) and CSS (Control System Studio). Meanwhile, we designed a new flexible and configurable low level control system part running on a Siemens PLC and exploiting MOXA serial server to control the renewed pump groups and pressure gauges. Moreover we extended the EPICS control system to support both HW configurations, providing to users the same information and graphic interface. The plan for the next years is to replace the legacy hardware with new racks running the new control system, provide service continuity, retrieve spare hardware, debug the PLC software and extend the EPICS control system with new features. This paper describes the adopted strategy and the upgrade status.

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Footnotes

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Yes

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