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Commissioning and operation of vacuum control system for SPES project

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The SPES (Selective Production of Exotic Species) project aims to create a facility based on particle accelerators to produce radioactive ion beams. The second phase of the project foreseen the transport of the non-reaccelerated radioactive ion beam from the TIS (Target Ion Source) to the low energy experimental hall. This part of SPES beam lines involves the major requirements in terms of complexity for the vacuum control system, as interface with GRS (Gas Recovery System), GSS (Global Safety System) and MPS (Machine Protection System), management of centralize pumping system for the exhaust, and different configurations of each section.
The VCS (Vacuum Control System) of the TIS and of the following beam line sections are based on modular control units which are highly configurable to be used in different installation and with different equipment. Each unit is constituted by a SIEMENS S7-1500 PLC and 10”touch panel for the local/remote configuration and operation by expert operator, while high level control system is done in EPICS (Experimental Physics and Industrial Control System) and CSS (Control System Studio).
This paper describes the commissioning phase of the VCS for the SPES facility, and the operation of the about 20 systems running at LNL (Laboratori Nazionali di Legnaro)*.

Funding Agency

Footnotes

- L. Antoniazzi et al., ”Status of Vacuum Control System Upgrade of ALPI Accelerator”, in Proc. ICALEPCS2023, Cape Town, Sud Africa, doi:10.18429/JACoW-ICALEPCS2023-TUPDP038

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