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CONTROLLING SYSTEM FOR EXPERIMENTAL SETUPS OF MASHA AT CYCLOTRON DC280.

Modernization of control system of the experiment MASHA will be discussed. The controlling system based on CompactRIO, FlexRIO and PXI/PXIe standards will be developed, tested and integrated with new experimental setups at cyclotron DC280. MASHA Experiment is designed to study properties of super heavy elements synthesized in reactions 242,244Pu and other neutron rich actinides + 48Ca. Setup of MASHA is a combination of ISOL (Isotope Separator On-Line)methods and the classical mass spectroscopy. There is a requirement for high reliability and stability of the measurement and control. Therefore, we are gradually building distributed control network consist of up-to-date devices. Controllers based on RIO architecture was applied for control (several actuators) and connecting to whole experiment for study cross sections of reactions 40Ar + 144Sm and 166Er. And there is plan to use RIO standard (consist of microprocessor working on real-time operating system and Field Programmable Gate Array) in new setup of MASHA with gas catcher and beam line from new accelerator DC280.

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