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Implementation of PPAC type detectors on ACCULINNA-2 separator –gas system topology and working principles

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The PPAC detectors are used for particle tracking systems in experiments with rare isotope beams in which particle identification is made in an event-by-event mode. The delay-line readout method allows measuring positions of beams. The serial placement of two detectors provides a possibility of determining a beam trajectory and a focus point. The critical factor for the proper operation of the detectors is to ensure the very high purity of the gas mixture and its stable flow at a given pressure. Tests of detectors showed that even remains of contamination in the system can lead to incorrect functioning of the PPAC detector. To meet the strict requirements, it is necessary to assemble the individual components with utmost care and to prepare optimal gas system topology and control system.

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