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Decay studies of n-deficient nuclei at ACCULINNA: case of S-27 and P-26

Studies of β-delayed proton emission is very important tool to investigate exotic, neutron-deficient nuclei. Information provided by this kind of research are important to understand some astrophysical phenomena, like rp process.

Experimental studies of β-delayed proton emission from S-27 and P-26 have been performed at the ACCULINNA separator, JINR, Dubna, in December 2015. The goal of the experiment was to search for, so-far unobserved, low-energy protons emitted after β decay of these nuclei. This goal was reached by applying the Warsaw Optical Time Projection Chamber (OTPC)[1] to record charged particles emitted by nuclei of interest implanted in its active volume. This experimental technique was developed in the Institute of Experimental Physics of University of Warsaw and is suitable for this kind of study, specially for low energy part of the proton spectrum. The results of the experiment will be presented [2]

[1] M. Pomorski et al., Phys. Rev. C 90, 014311 (2014)
[2] Ł. Janiak, N. Sokołowska et al., Phys. Rev. C 95, 034315 (2017)

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