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beta-delayed neutron emission and half-lives measurements with a 4pi neutron detection setup: BELEN and BRIKEN detectors

β -delayed neutron emissions play a crucial role in various fields, including nuclear technology and nuclear astrophysics. Our research group boasts extensive expertise in measuring β -delayed one and two neutron emission probabilities (P_{1n} and P_{2n} values), as well as decay half-lives of exotic nuclei, utilizing the state-of-the-art BELEN and BRIKEN (Beta delayed neutron measurements at RIKEN) detectors. This poster showcases our technical proficiency in designing the BELEN and BRIKEN detectors, highlighting various configurations developed, along with the most noteworthy results derived from these experiments. Additionally, we introduce innovative designs tailored to meet the scientific objectives of the DESIR-BESTIOL collaboration.

Abstracts

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