Abstract Submitted
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Beta-delayed neutron emission around doubly magic 78Ni[1] KRZYSZTOF RYKACZEWSKI, Oak Ridge National Lab, BRIKEN COLLABORATION — BRIKEN collaboration operates the world-largest beta-delayed neutron detection array at the BigRIPS fragment separator at RIKEN (Wako, Japan). Multiple experiments including the ones focused on the 78Ni region have been performed profiting from up to $4.3*10^{11}$ pps 238U beam at 345 MeV/u. For last experiment focused on 82Cu activity, BRIKEN array was modified to achieve larger gamma efficiency having fragment implantation and beta decay detectors of WASABI array complemented by a position sensitive YSO scintillator developed at the UTK. Isotopes between 61V-69V up to 95Br-97Br were produced and identified. The total rate of identified 78Ni ions during BRIKEN experiments was around 65,000, with about 41,000 ions implanted for decay study. Together with new beta-delayed (multi) neutron branching ratios and half-lives, new data on beta-neutron-gamma correlations help us to analyze the nuclear structure evolution at and beyond N=50 shell closure.

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