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# Development of the Advanced Multi-neutron Detection Array for the study of multi-neutron clusters

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Structure and correlations of nuclei at and beyond the neutron drip line have attracted lots of attention in the last decades. Strongly correlated neutrons may also form neutron clusters (e.g., 3n, 4n). Despite many experimental and theoretical efforts, the properties of these neutron clusters still remain elusive. To study the structure of the extremely neutron-rich nuclei and the correlations between the constituent neutrons, we are now developing a new neutron detector array, Advanced Multi-neutron Detection Array (AMDA), aiming for high-resolution and high-efficiency multi-neutron detection. A prototype array has been built, which is composed of four detector units each consisting of the BC408 plastic scintillator with a size of 2cm*2cm*100cm and SiPM. The time and position resolution, and the attenuation length have been determined from the cosmic ray test.

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