

URANIA-V (muRwell Advanced Neutron Identification Apparatus)

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A new challenge in particle physics is neutron detection. Innovative detection techniques are needed for the application in this field, e.g. radioactive waste monitor homeland security applications, scanner with neutron scattering. Gaseous detector together with a proper converter can be used for these purposes; a boron coated cathode converts the neutron and the products are detected with muRwell technology: single amplification stage gas detector with a resistive spark-protection. In this presentation an overview of the project is given: a thermal neutron detector has been designed, built and tested with a Am241-B neutron source. A detection efficiency of about 4% with thermal neutron has been achieved with a simple configuration of converter, detector and electronics. This design has been shared with the industry and the technological transfer has started. The R&D is focused on new design and a more sensitive electronics to count the single-particle.

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No, this is an entirely new submission.

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