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MicroMegas-based detectors for neutron-induced reactions

Micromegas detectors are versatile gaseous charged-particle detectors. They can be used for neutron detection with a suitable neutron/charged particle converter, usually Li-6, B-10 or U-235. The detector consists of a two-stage parallel-plate avalanche chamber with an ionization drift region and an amplification region. The use of the microbulk technique allows the use of printed circuit board techniques to produce a very thin, radiation resistant, and low-mass detector with an amplification gap of typically 50~micrometer. Micromegas neutron detectors have been used both at pulsed neutron time-of flight facitlies and at a continous neutron beams. An overview of MicroMegas detectors for neutron detection and neutron reaction cross section measurements and related results and developments will be presented.

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