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A new high resolution detector system at ANTARES

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The water management in polymer electrolyte membrane fuel cells (PEMFCs) has been studied extensively with neutron imaging. In contrast, for anionic electrolyte membrane fuel cells (AEMFCs), which provide a high economic potential based on the fact that no noble metal catalysers need to be employed, very few studies of water management exist to date.
A main limitation of investigating the water transport in the area of the membrane is the limited spatial resolution of neutron imaging detectors. Several approaches have been made to improve the spatial resoution below the 10µm regime. In this poster we present a novel detector concept which is currently being developed for the ANTARES beam line at FRM II which will be based on the detection of single neutron events and will employ a centroiding technique to increase the spatial resolution down to 1µm.
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