

Challenge 1 m² neutron detector

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Due to the price of ³He gas, developments of detectors based on ¹⁰B⁴C have taken place. At the HZG some test-detectors have been developed for prove of concept. The aim is to develop and build detectors with an active area of 1 m² and a spatial resolution of 2 mm². The big challenge lies in the mechanical setup of these detectors because of their size. On one hand the setup should be as lean as possible and on the other hand it should also be stable to withstand the different forces caused by the tension of the wires and the applied high voltage. Especially the high voltage causes a bending of the ¹⁰B⁴C-planes and the wires. In my talk I would like to show how we faced this problem and build up the HZG-“sandwich”- detector.

Formal Invitation Letter Required

Yes

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