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Development of a silicon ball for electron scattering coincidence experiments at the S-DALINAC* — •Anatoliy Byelikov, Uwe Bonnes, Jürgen von Kalben, Peter von Neumann-Cosel, and Achim Richter — Institut für Kernphysik, TU Darmstadt

A new experiment on electro-induced breakup of ^{2}H is planned at the Darmstadt linear accelerator S-DALINAC in order to explore the structure funktions in the ^{2}H(e,e′p) reaction at low momentum transfer. This requires, however, high statistics, in particular for extraction of the TT interference term, which are an order of magnitude larger than the achieved in previous experiments[1]. Therefore a compact ball of Si detectors is developed to improve the solid angle by a corresponding factor.

The silicon ball can also be used to perform triple coincidence experiments of the type ^{3}He(e,e′pp). Such kinematically complete data are of particular interest because within the covered phase space the relative motion of all three nucleons in the bound nucleus can be completely mapped.

The poster presents the status of the project.

[1] P. von Neumann-Cosel et al., Phys. Rev. Lett. **88** (2002) 202304.

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Email: byelikov@ikp.tu-darmstadt.de