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## A Multi-Pixel Camera for Fast Neutron Radiography

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The neutron radiography group at the Physics Institute III B, RWTH Aachen University, develops a multi-pixel camera for fast neutron radiography using an AmBe neutron source or a neutron generator.

So far, two camera prototypes were built: A single-pixel prototype and a 16-pixel camera. Both prototypes use stilbene scintillator cuboids of size  $5 \times 5 \times 25 \text{ mm}^3$  for neutron detection. The created scintillation light is detected via silicon photomultipliers.

In detailed test measurements and Geant4 simulations, the detector response to neutrons and gamma rays, the material discrimination capability and the spatial resolution are studied. In the near future, an improved version of the neutron camera using the obtained results shall be constructed.

In this talk, the most important results from the measurements and simulations are shown, focusing especially on the material discrimination in radiography applications, and design concepts for the improved camera are discussed.

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