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Self-Made Particle Detectors for High Schools and Universities

Particle physics in schools but also during undergraduate studies can be taught most effectively by designing and conducting own experiments. In the past years, we developed two construction manuals for fully functional cloud chambers as well as a counting detectors using only material which can be purchased by private persons with total costs below 200 USD. We tested the construction of these detectors with undergraduate students during lectures on detector physics. The resulting prototype detectors can be further used in high schools. In this presentation we will summarize the construction manuals, discuss the performance of the detectors as well as present on the feedback which we received from students and high school teachers alike.

Primary authors: SCHOTT, Matthias (Johannes Gutenberg Universitaet Mainz (DE)); DUDDER, Andreas Christian (Johannes Gutenberg Universitaet Mainz (DE))

Presenter: SCHOTT, Matthias (Johannes Gutenberg Universitaet Mainz (DE))

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