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Detectors for the “Beamline for Schools” competition at CERN

In 2014 CERN has started to organize “Beamline for Schools” (BL4S), an annual, worldwide physics competition for high school students. The students are invited to propose a particle physics experiment to CERN using a secondary beam of particles (electrons, protons, pions, kaons, muons) with momenta of up to 10 GeV/c. CERN also provides a number of different detectors that the students may use for their experiment.

For the first edition of BL4S in 2014, that pool of detectors was limited to Cherenkov counters, delay wire chambers, scintillation counters and lead glass calorimeters.

In order to allow the students to propose a wider range of experiments, the small BL4S team at CERN follows modern detector trends and keeps adding detectors to that pool of equipment. We will describe the design of delay wire chambers, MRPCs and MicroMegas as well as their production and testing in collaboration with experts from the CERN detector groups. In addition, we will provide details about the software developed to read out these detectors. Finally, results obtained with the MRPCs in 2016 will be presented.

Experimental Collaboration

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