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Investigations into beam monitors at the AEgIS experiment

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Detailed diagnostic of antiproton beams at low energies is required for essentially all experiments at the AD, but will be particularly important for the future ELENA ring and its keV beam lines to the different experiments. Many monitors have been successfully developed and operated at the AD, but in particular beam profile monitoring remains a challenge.
A dedicated beam instrumentation and detector test stand has recently been setup at the AEgIS experiment. Located behind the actual experiment, it allows for parasitic use of the antiproton beam at different energies for testing and calibration. With the aim to explore and validate different candidate technologies for future low energy beam lines, as well as the downstream antihydrogen detector in AEgIS, measurements have been carried out using Silicon strip and pixel detectors, a purpose-built secondary emission monitor and emulsions. In this contribution results from these measurements and characterization of the different detector types with regard to their future use at the AD complex are presented. An outlook to future R&D plans is also given.

Primary author: Mr SOSA, Alejandro (CERN, Cockcroft Institute and The University of Liverpool)

Co-authors: Dr JEFF, Adam (CERN, Cockcroft Institute and The University of Liverpool); Mr KNECHT, Andreas (CERN); Prof. WELSCH, Carsten (Cockcroft Institute and The University of Liverpool); Mr BRAVIN, Enrico (CERN); Mr HARASIMOWICZ, Janusz (Cockcroft Institute and The University of Liverpool); Dr DOSER, Michael (CERN); Dr KARAMYSHEV, Oleg (Cockcroft Institute and The University of Liverpool); Mr AHLEN, Olof (CERN)

Presenter: Dr KARAMYSHEV, Oleg (Cockcroft Institute and The University of Liverpool)

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