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Status of the ELENA Project at the CERN AD

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The CERN Antiproton Decelerator (AD) routinely delivers about 3E7 antiprotons every 100 s and with an energy of 5.3 MeV to experiments. The Extra Low Energy Antiproton ring (ELENA) is a small 30 m circumference synchrotron under construction to further decelerate antiprotons from the AD down to 100 keV, an unusually low energy for synchrotron, and to further cool them with an electron cooler. Controlled deceleration in a synchrotron equipped with an electron cooler to reduce emittances in all three planes will allow the existing AD experiments to increase substantially their antiproton capture efficiencies and render new experiments possible. The beam will be transported from ELENA to the experiments by an electrostatic transfer line, which is an elegant and cost effective solution at such low energies. The basic ELENA design including main performance limitations and expected beam characteristics and the project status including planning will be reported.

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