

**Hauptvortrag** PV XIX Do 12:15 RW 1  
**ELENA - an upgrade to the CERN Antiproton Decelerator**  
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During more than 10 years of regular operation, the AD has supplied a successful physics program with low-energy antiproton beams.

For the medium and long-term future, several options exist for upgrades and consolidation of the facility as well as for extension of the physics program.

This presentation will deal with the design, construction and impact of the Extra Low ENergy Antiproton ring (ELENA) which has been approved lately. ELENA is a compact ring for cooling and further deceleration of the 5.3 MeV antiprotons delivered by the AD. A significant increase (between one and two orders of magnitude) in the antiproton trapping efficiency by the experiments is expected due to the efficient deceleration and the compensation of the adiabatic increase of the beam emittances obtained by using an electron cooler. In addition, a second extraction channel is foreseen, opening the possibility for the installation of further experiments in the AD hall.