



Contribution ID: 8

Type: **not specified**

## Towards a transportable antiproton reservoir

*Tuesday 27 August 2024 16:30 (25 minutes)*

The world's only source of low-energy antiprotons is currently the AD/ELENA facility located at CERN. Precision measurements on single antiprotons have been conducted at this facility and provide stringent tests of fundamental interactions and their symmetries. However, magnetic field fluctuations from the facility operation limit the precision of upcoming measurements. To overcome this limitation, we have designed the transportable antiproton trap system BASE-STEP to relocate antiprotons to laboratories with a calm magnetic environment. We present the technical design, characterization measurements of the transportable superconducting magnet, and the current status of the transportable antiproton trap BASE-STEP.

**Primary author:** SMORRA, Christian (Heinrich Heine University Dusseldorf (DE))

**Co-authors:** MOOSER, Andreas (Max-Planck-Gesellschaft (DE)); SOTER, Anna (ETH Zürich); SIEBERT, Anton Maximilian (Heinrich Heine University Dusseldorf (DE)); LATACZ, Barbara Maria (CERN; RIKEN, Ulmer Fundamental Symmetries Laboratory, Japan); ARNDT, Bela Peter (Max Planck Society (DE)); OSPELKAUS, Christian (Leibniz Universitaet Hannover (DE)); SCHWEITZER POPPER, Daniel (Heinrich Heine University Dusseldorf (DE)); WURSTEN, Elise (RIKEN); ABBASS, Fatma Ali Ibrahim (Johannes Gutenberg Universitaet Mainz (DE)); VÖLKSEN, Frederik; UMBRAZUNAS, Gilbertas (ETH Zurich (CH)); KLETT, Hanna (Heinrich Heine University Dusseldorf (DE)); YILDIZ, Hüseyin (Johannes Gutenberg-Universität Mainz); DEVLIN, Jack; Prof. WALZ, Jochen (Johannes Gutenberg Universität Mainz); JAEGER, Julia Ines (CERN, MPIK, Heidelberg University (DE)); BLAUM, Klaus (Max Planck Society (DE)); LEONHARDT, Marcel (Heinrich Heine University Dusseldorf (DE)); BEINE, Maria Isabela (Leibniz Universitaet Hannover (DE)); GEISSLER, Philip (RIKEN (JP)); ERLEWEIN, Stefan (RIKEN (JP)); Prof. ULMER, Stefan (HHU Düsseldorf / RIKEN); QUINT, Wolfgang

**Presenter:** SMORRA, Christian (Heinrich Heine University Dusseldorf (DE))

**Session Classification:** Parallel I