Status of the Low-Energy Facilities for Antiproton and Heavy-Ion Experiments at FAIR

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FAIR, the Facility for Antiproton and Ion Research, is the next generation facility for fundamental and applied research with antiproton and ion beams. It will provide worldwide unique accelerator and experimental facilities, allowing for a large variety of unprecedented forefront research in physics and applied sciences. Key features of FAIR are intense beams of antiprotons and ions up to the heaviest and even exotic nuclei in virtually all charge states, covering an energy range from rest up to 10 GeV/u.

In the presentation, special emphasis will be devoted to the low-energy experimental facilities and the anticipated research programs related to atomic and fundamental physics with highly-charged ions (SPARC collaboration) and slow anti-protons (FLAIR collaboration) and will focus on most recent developments. Currently, the central storage-ring installation of the FLAIR facility, the CRYING, is getting installed and expected to be commissioned soon. In combination with HITRAP this would already allow to address the research program for slow highly-charged ions of the international FAIR project. Moreover, a new scenario for the deceleration of antiprotons is under discussion, enabling to inject antiprotons into the CRYRING for further deceleration and finally providing slow and even trapped antiprotons for experiments.