

Abstract Submitted
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Cross sections for antiproton collisions ALEJANDRO SAENZ, ARMIN LUEHR, Humboldt University Berlin — The presently constructed large facility FLAIR at the GSI Darmstadt (Germany) will give new impetus to low-energy antiproton physics and their use for fundamental physics like tests of the CPT-invariance or gravity of antimatter. The envisaged energies will allow investigations of antiproton collisions below the applicability of the first Born approximation. This leads to an increased interest in theoretical investigations of slow antiproton collisions. The theoretical cross-sections should in turn also be useful for the design of the new experimental facility where, e.g., the interaction of antiprotons with residual-gas atoms is important. Theoretical investigations for collisions of the alkali metal atoms Li, Na and K with antiprotons in an energy range from 0.2 to 1000 keV have been performed. Cross sections for excitation, ionization, and angular resolved ionization are presented. The calculations are based on a time-dependent close coupling method based on the classical trajectory approximation. The approach is currently extended from atomic to molecular targets.

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