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Low-energy antinucleon-nucleus interaction revisited

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Experimental annihilation cross sections of antineutrons and antiprotons at very low energies are compared. On a proton target the cross sections vary smoothly up to 600 MeV/c and the differences are described fully by Coulomb focusing. Direct data comparisons for heavier targets are not possible due to lack of overlap between energies and targets. Interpolations with optical potentials that fit all the antiproton-nucleus data from atoms up to 600 MeV/c surprisingly reveal features of Coulomb scattering in the antineutron annihilation cross sections on nuclei. Additional measurements with antiprotons are outlined which will enable direct data-to-data comparisons.

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