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【328】 Validation of Monte Carlo Simulations for Antiproton-Nucleus Annihilation at Rest Using Thin Targets

Wednesday 6 September 2023 16:15 (15 minutes)

Several approaches have been proposed for modelling antiproton-nucleus annihilation at rest, but a complete description of the process is still lacking, as well as systematic data. This talk focuses on recent experimental results from annihilation measurements at the ASACUSA experiment, using slow extracted antiprotons and targets of 1-2 µm thickness. The prongs from individual annihilation events in carbon, molybdenum and gold were detected combining two detectors, resulting in their multiplicity and energy distributions, which are compared to current Monte Carlo simulations. The discrepancies will be discussed quantitatively and qualitatively. The A-dependence of the average multiplicities for heavy prongs, usually stopped in the target in previous experiments will be also shown.

Theoretical Work

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