

New results of the antiproton-carbon annihilation cross section measurement at low energies

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Collaboration

Abstract content

The antinucleon-nuclei annihilation cross section σ_{ann} at very low energy has been measured at the LEAR facility (CERN) during the 80's and 90's and recently at the Antiproton Decelerator. The antineutron data at momenta below 180 MeV/c on several nuclei showed a steep rise which is expected only for the antiproton projectile due to its negative charge. The difference between the antineutron and the antiproton interaction with nuclei can be investigated measuring the σ_{ann} of the antiprotons on the same nuclei and at the same energies. So far a direct comparison of the σ_{ann} is possible only for momenta below 80 MeV/c (on proton) and at 100 MeV/c (on Sn target). The ASACUSA collaboration recently performed an experiment to measure the σ_{ann} of 100 MeV/c antiprotons on a carbon target whose preliminary results are presented here.

Primary author(s) : MASCAGNA, Valerio (Università degli Studi di Brescia - INFN Sezione di Pavia); VENTURELLI, Luca (Dipartimento di Ingegneria dell'Informazione, Università degli Studi di Brescia, 25133 Brescia, Italy & INFN - Pavia, 25133 Brescia, Italy); LEALI, Marco (Dipartimento di Ingegneria dell'Informazione, Università degli Studi di Brescia, 25133 Brescia, Italy & INFN - Pavia, 25133 Brescia, Italy); CORRADINI, Maurizio (Dipartimento di Ingegneria dell'Informazione, Università degli Studi di Brescia, 25133 Brescia, Italy & INFN - Pavia, 25133 Brescia, Italy); LODI-RIZZINI, Evandro (Dipartimento di Ingegneria dell'Informazione, Università degli Studi di Brescia, 25133 Brescia, Italy & INFN - Pavia, 25133 Brescia, Italy); AGHAI-KHOZANI, Hossein (Max-Planck-Institut für Quantenoptik, D-85748 Garching, Germany); HORI, Masaki (Max-Planck-Institut für Quantenoptik, D-85748 Garching, Germany); HAYANO, Ryugo (Department of Physics, University of Tokyo, Bunkyo-ku, Tokyo 113-0033, Japan); MURAKAMI, Yohei (Department of Physics, University of Tokyo, Bunkyo-ku, Tokyo 113-0033, Japan); PREST, Michela (Dipartimento di Scienza e Alta Tecnologia, Università degli Studi dell'Insubria, I-21100 Varese, Italy & INFN - Milano Bicocca, I-20126 Milano); VALLAZZA, Erik (INFN - Trieste, I-34127 Trieste, Italy); HIROYUKI, Yamada (Department of Physics, University of Tokyo, Bunkyo-ku, Tokyo 113-0033, Japan)

Presenter(s) : MASCAGNA, Valerio (Università degli Studi di Brescia - INFN Sezione di Pavia)

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