

## Strangeness Production In Antiproton Annihilation At Rest

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Strangeness Production In Antiproton Annihilation

Strangeness production in antiproton-nucleus annihilation A.B. Larionov1,2,3,a, T. Gaitanos1, H. Lenske1, and U. Mosel1 1 Institut f\u00fcr Theoretische Physik, Universit\u00e4t at Giessen, D-35392 Giessen, Germany 2 National Research Center “Kurchatov Institute”, 123182 Moscow, Russia

Strangeness production in antiproton-nucleus annihilation
For pure S=1 annihilations at rest the ratio R has been estimated to be 1.46 [r.8]]. F. Balestra et al. / Strangeness production 417 For S=0 annihilation plus rescattering thratio R has been estimated to be 1.10 for \u00b0C below 400 MeV/c and 1.43 for \u00b0Ne at 600 MeV/c [r.6]].

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However, the double strangeness exchange process, KN \u2013 K, mainly responsi- thr ble for production, is endothermic ( p = 1.05 GeV/c—K beam momentum at lab thr threshold, y = 0.55—c.m. rapidity at threshold) and requires a fast incoming K. c.m. ds/dy (mb) Strangeness production in antiproton-nucleus collisions 87 Such antikaons are mostly emitted in the forward direction in the laboratory frame.

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Strangeness production in antiproton-nucleus annihilation By Mosel U., Lenske H., Larionov A.B. and Gaitanos T. No static citation data No static citation data Cite

Strangeness production in antiproton-nucleus annihilation
Agenda:
• Charm and strangeness production in antiproton-nucleon annihilation
• Covariant Lagrangian description of reactions
• Evidence for meson-exchange in reactions
• Hypernuclear production by coherent antiproton-nucleus reactions
• Multi-Strangeness S=−2,−3 production in antiproton-nucleus collisions ...

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Double strangeness production in antiproton annihilation ...
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Double strangeness production in low-energy antiproton ...
Search for double strangeness production in low energy antiproton annihilations on Xenon nuclei has identified 33 unambiguous events with two or more strange particles in the final states. The yields of the K + K + X and K + K 0 X channels turned out of the order of 10 <sup>−5</sup>–10 <sup>−4</sup> , greater than the evaluation starting from strangeness production on a free nucleon.

Double strangeness production in p \u2013 Xe annihilation at low ...
Strange particles and hyperfragments in collisions of antiprotons and protons on nuclei have been investigated systematically within a microscopic transport model. The hyperons are produced from the annihilation in antibaryon-baryon collisions and the strangeness exchange process in antiproton induced reactions.

Phys. Rev. C 101, 064601 (2020) - Strangeness production ...
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Annihilation - Wikipedia
These experimental measurements set upper limits on the number of antiprotons that could be produced in exotic ways, such as from annihilation of supersymmetric dark matter particles in the galaxy or from the Hawking radiation caused by the evaporation of primordial black holes. This also provides a lower limit on the antiproton lifetime of about 1-10 million years.

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