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Strange-Particle Production in Antiproton Annihilation Events.^{*}
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T. F. HOANG, WILSON M. POWELL, and REIN SILBERBERG, Lawrence
Radiation Laboratory and Department of Physics, University of California,
Berkeley, California. --Antiproton interactions and annihilations at a \bar{p}
momentum of 1.1 Bev/c have been studied in the L. R. L. 30-inch propane
chamber; 22,000 pictures were taken in an enriched \bar{p} beam.¹ About
2500 \bar{p} annihilation events were observed in the central region of the chamber.
In about 130 annihilation stars, strange particles were produced that were
observed to decay in the chamber. The strange-particle production has
been measured by analyzing the charged decay modes of θ_1 mesons
emitted in the annihilation. We deduced from these events the total
number of strange particles produced. Corrections for absorption of θ mesons
in the carbon nucleus have been made. To date, about 45 events with one
 θ_1 meson have been observed and 6 events with two θ_1 mesons. Comparing
this number with strange-particle production from annihilation events at
rest and at relatively low \bar{p} energies,² we find an appreciable increase in
the strange-particle production. The implication of these results on proposed
statistical models will be discussed.

Abstract for Hawaii Meeting of APS August 27-29, 1959

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¹Alvares, Eberhard, Good, Graziano, Ticho, and Wojcicki, Phys. Rev. Lett.
2, 215 (1959).

²Chamberlain, Goldhaber, Jauneau, Kalogeropoulos, Segre, and Silberberg,
Phys. Rev. 113, 1615 (1959); and L. Agnew (Lawrence Radiation Laboratory),
private communication.