Single and multi-nucleon antiproton-4He annihilation at rest

Paolo Montagna
(for the Obelix Collaboration)

Dipartimento di Fisica Nucleare e Teorica - Universita' di Pavia
V. Bassi, 6 - 27100 Pavia, Italy
e-mail:Paolo.Montagna@pv.infn.it

Abstract

The $\overline{p}$ annihilation at rest in a NTP ^4He gas target has been studied by means of the Obelix spectrometer installed at the LEAR accelerator of CERN. Reactions with production of $2\pi^-2\pi^+$, $2\pi^-3\pi^+$, $2\pi^-2\pi^+p$, $2\pi^-\pi^+2p$, $2\pi^-3p$ have been selected and single and multinucleon annihilations identified. For the first time some known mesonic and baryonic resonances have been observed in $\overline{p}\,^4He$ annihilations and branching ratios are evaluated for a number of reaction channels.