

Energy dependence of Ξ and Ω production in Pb+Pb collisions at CERN SPS

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Abstract

In the context of its energy scan program the NA49 experiment has taken data on Pb+Pb reactions at beam energies ranging from 20 to 158 A GeV. One of the striking observations is a maximum in the relative strangeness yield in central Pb+Pb collisions at low SPS energies. This motivates a detailed study of multiple strange hyperon production as function of the center of mass energy.

Here we report the new results on Ξ^- , Ξ^+ , Ω^- , and $\bar{\Omega}^+$ production in Pb+Pb collisions. At 40 A GeV corrected rapidity and transverse mass spectra will be shown for Ξ^- and $(\Omega^- + \bar{\Omega}^+)$, measured in central collisions. Additionally, a study of the centrality dependence of Ξ^- production was performed.

The ratios $\bar{\Xi}^+/\Xi^-$ and $\bar{\Omega}^+/\Omega^-$ will be presented for central Pb+Pb collisions at 20, 30, 40 and 80 A GeV and compared to previously measured results at 158 A GeV.