ENHANCEMENT OF INTERMEDIATE MASS DIMUONS IN NUCLEUS-NUCLEUS COLLISIONS AT THE CERN-SPS.

NA50 Collaboration

Presented by: L. Capelli

Abstract

Dimuon production in p–A, S–U and Pb–Pb collisions at the CERN–SPS has been studied by the NA38 and NA50 collaborations. A 4–Dimensional unfolding method has been applied to the data to study the intermediate mass dimuon region between 1.6 and 2.5 GeV/c^2 (IMR). It is shown that the superposition of conventional processes, namely open charm and Drell–Yan, extrapolated from p–A distributions is unable to describe the overproduction observed in the ion data. Medium effects or D–mesons rescattering cannot account for the experimental results.Two possible explanations of the observed excess, namely an enhancement of charm production or the presence of thermal dilepton radiation, are discussed.

Preprint submitted to Elsevier Preprint *20 December 2000*