

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

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The upstream detectors and the pions from weak interactions decays

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1 Simulation and results

Our goal was to compare the distributions of Q , Q_x , Q_y , Q_l and P_{total} for all $\pi\pi$ -pairs and for all $\pi\pi$ -pairs except pairs which have at least one pion from weak interaction decay (K_S^0, K^\pm, Λ and Σ^\pm , which we call “longlong lived” pions, whereas the pions from η and η' are called “long lived” pions and the pions from ρ, ω, \dots are called “short lived” pions). All the “longlong lived” pions were suggested to be created in the target. The coulomb factor was not taken into account. It will show whether such pions from weak interaction decays change the shape of these distributions.

Using FRITIOF the momentum distributions for both kinds of pion pairs were obtained and they were used in GEANT. ARIANE was used for reconstruction.

The results are shown on Fig. 1, 2 and 3

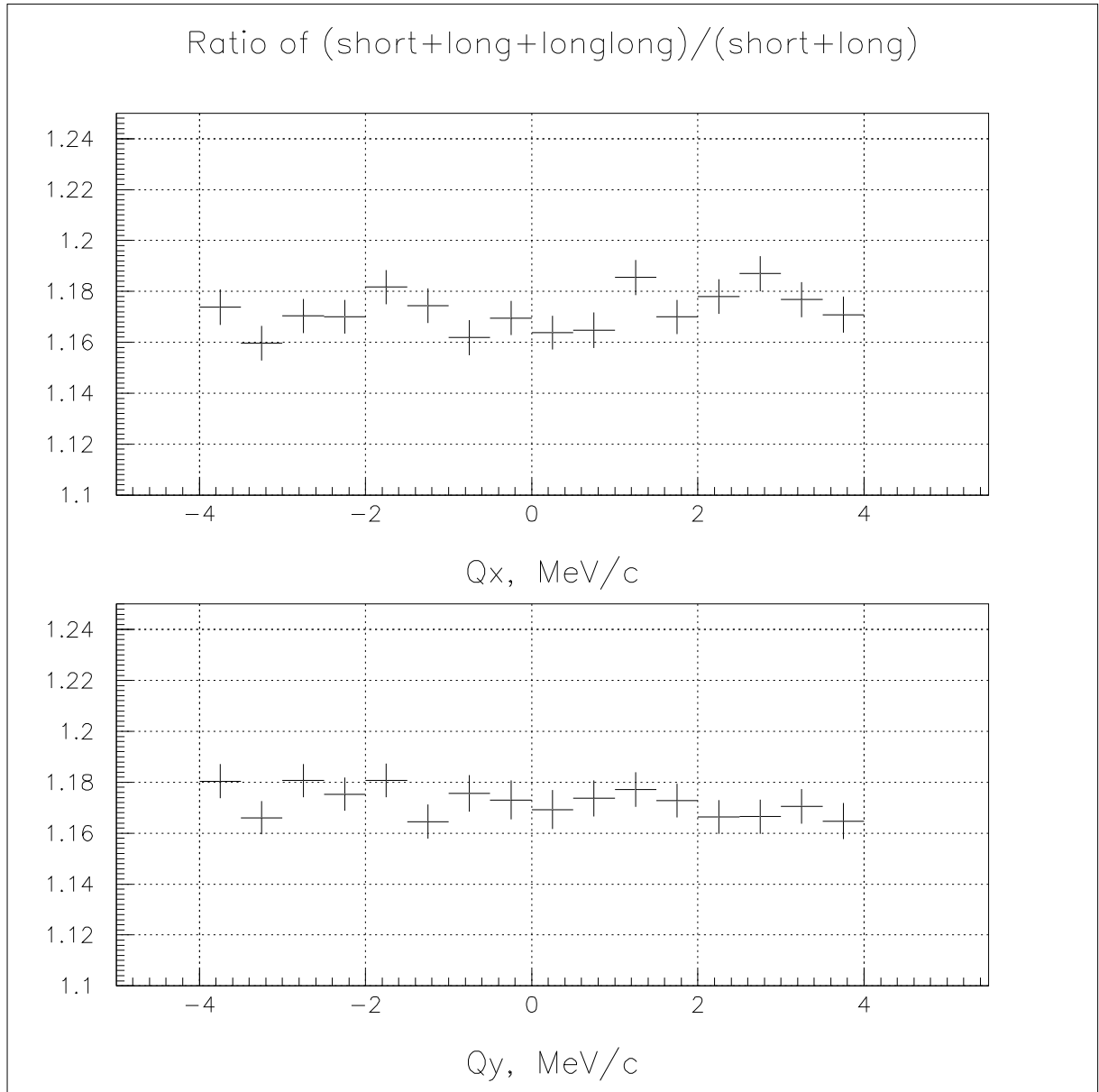


Figure 1: *The ratio of (all pairs)/(all pairs without “weak” ones) for Q_x and Q_y .*

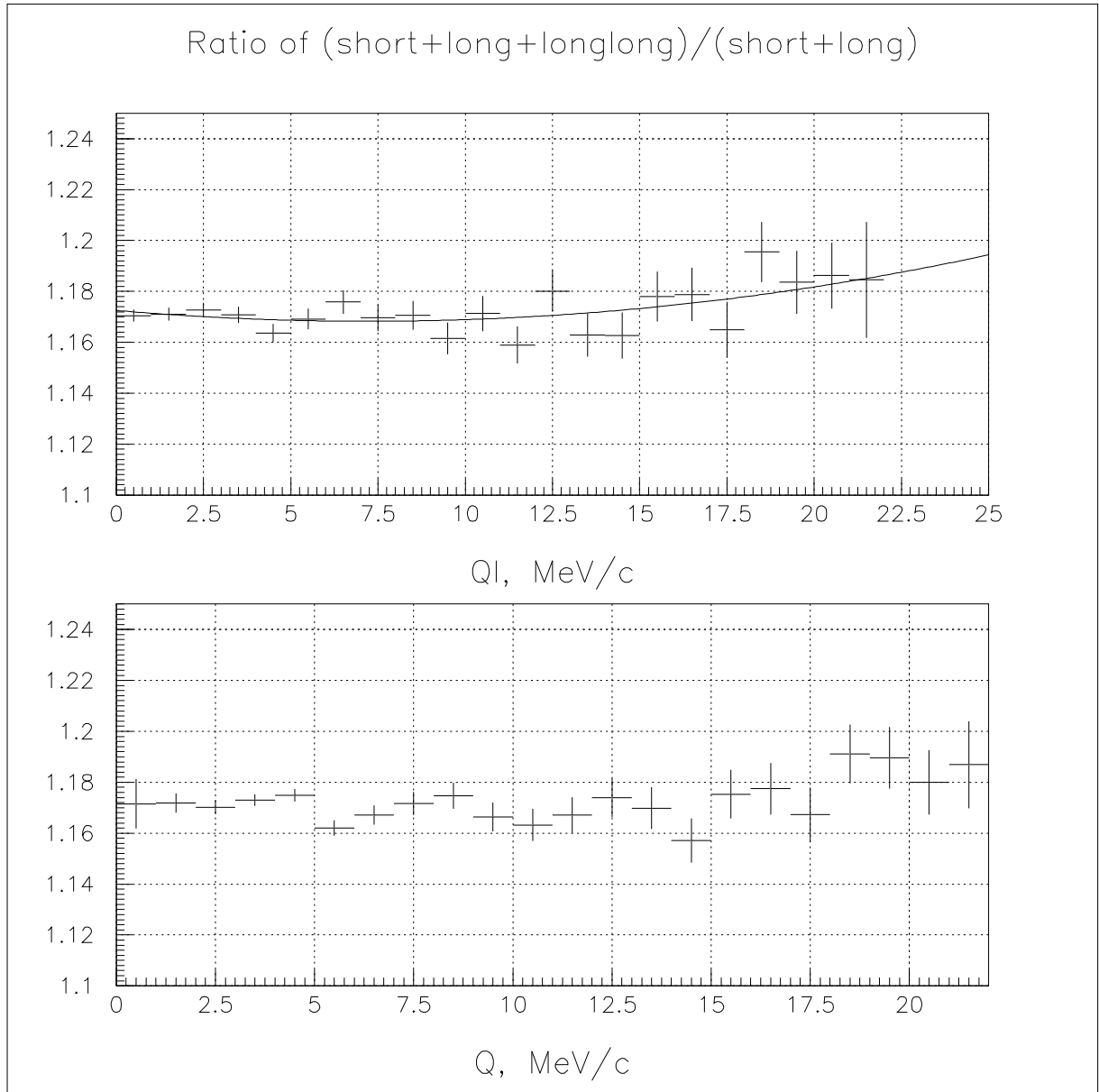


Figure 2: *The ratio of (all pairs)/(all pairs without “weak” ones) for Q_l and Q .*

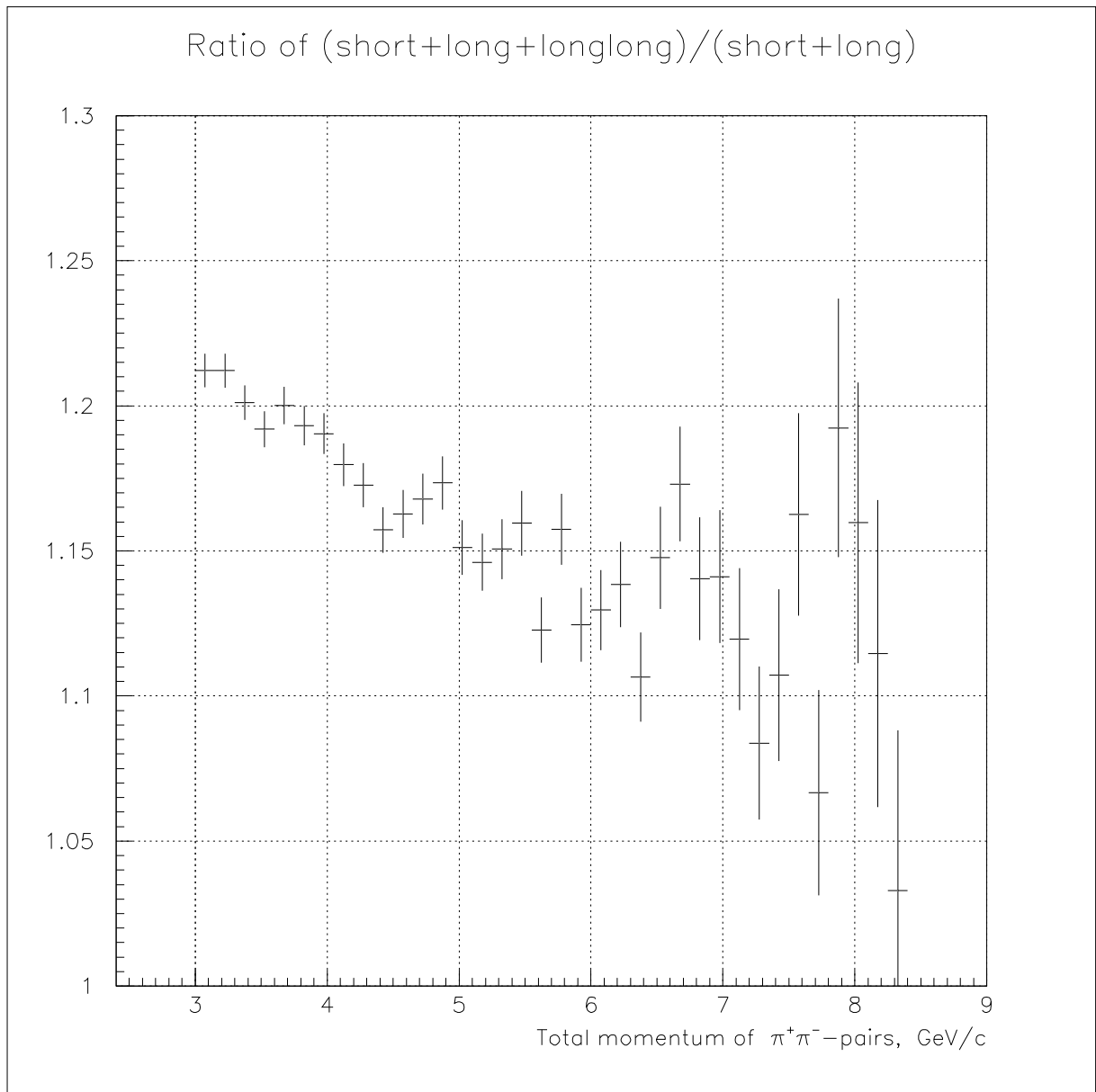


Figure 3: *The ratio of (all pairs)/(all pairs without “weak” ones) for pair total momentum.*