

Meson production in the lightest nuclear interactions

M.Ajaz^(a), M.K. Suleymanov^(a,b), K.H.Khan^(a), Ali Zaman^(a)

^(a) COMSATS Institute of Information Technology, Islamabad

^(b) Joint Institute for Nuclear Research, Dubna

We present some experimental results on mesons production in pC - and dC -interaction at $4.2 \text{ AGeV}/c$ [1]. The results of the study have been compared with the simulation data coming from the Cascade model [2]. The average values of the mesons' characteristics are studied as a function of the identified protons in an event. We used "half angle" ($\theta_{1/2}$) and the mesons with emission angle great and less than $\theta_{1/2}$ are considered separately. The $\theta_{1/2}$ is defined as the angle which divides approximately all secondary charged particles produced in NN -collisions at same energies half-and-half approximately [3]. We are looking for the nuclear transparency effect for the lightest nuclear interactions

[1] A.I. Bondarenko et al. JINR Communications P1-98-292, Dubna, 1998.

[2] V.S. Barashenkov and V.D. Toneev, "Interaction of high energy particles and atomic nuclei with nuclei", Moscow, Atomizadt, 1972; V.D. Toneev and K.K. Gudima, Nucl. Phys., 1983, A400, 173; V.S. Barashenkov, F.Zh. Zheregii, Zh.Zh. Musulmanbekov, JINR preprint, P2-83-117, 1983, Dubna.

[3] P.L. Jain, M. Kazuno, G. Thomas, B. Girard. Phys. Rev. Lett. 33, 660, 1974; J.I. Cohen, E.M. Friedlander et al. Lett. Nuovo Cim., 9, 337, 1974; A.I. Anoshin et al. Sov. Journal of Nucl. Phys., 27, 5, p.1240-1245, 1978.

E-mail:

Muhammad.Ajaz@cern.ch