

TRITIUM FORMATION
AT THE FRAGMENTATION OF AN ^{16}O
NUCLEUS WITH A MOMENTUM OF $3.25A \text{ GeV}/c$

*K.G. Gulamov, E.I. Ismatov¹, S.L. Lutpullaev,
K. Olimov, V.I. Petrov, A.A. Yuldashev*

Physical and Technical Institute,
Scientific Production Association “Physics—Sun”,
Acad. Sci. of Republic Uzbekistan
(2b, G. Mavlyanov Str., Tashkent 700084, Uzbekistan;
e-mail: olimov@uzsci.net),
¹Institute of Nuclear Physics,
Acad. Sci. of Republic Uzbekistan
(Ulugbek, Tashkent, Uzbekistan)

S u m m a r y

New experimental data concerning the formation of tritium at ^{16}O -collisions with a momentum of $3.25A \text{ GeV}/c$ have been reported, and the interpretation of the mechanisms of the relevant reactions has been offered. Correlations between the multiplicities of secondary nuclei and the produced pions associated with the formation of the $^3\text{H}_1$ nucleus have been established. Strong positive correlations between the nucleus $^3\text{H}_1$ multiplicity and the formation of π^+ -mesons, which evidence for their multiplication during the inelastic recharge of nucleons at their multiple intra-nuclear rescattering, have been found. The process of fusion of cascade nucleons, knocked out quasielastically from the oxygen nucleus, was demonstrated to be the basic mechanism of formation of fast ($T \geq 70 \text{ MeV}$) $^3\text{H}_1$ nuclei.