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Δ0-isobar formation in central p12C- and d12C-collisions at 4.2 A GeV/c

In the present work, we present new experimental data on the different characteristics of Δ0-isobars formed in central p12C- and d12C- collisions at 4.2 A GeV/c.

Since the average number of protons in both collisions was found to be close to 1 (see Table), those p12C- and d12C- collisions in which the number of participating protons is ≥3 were considered to be central collisions. Figs. 1 and 2 show the mass spectra of Δ0-isobars in the considered collisions, respectively.
![Fig.1. Effective mass distribution of π-p -pairs in the central collisions of p12C interactions at 4.2 GeV/c][1]
Fig.1. Effective mass distribution of π-p -pairs in the central collisions of p12C interactions at 4.2 GeV/c
![Fig.2. Effective mass distribution of π-p -pairs in the central collisions of d12C interactions at 4.2 GeV/c][2]
Fig.2. Effective mass distribution of π-p -pairs in the central collisions of d12C interactions at 4.2 GeV/c

The curves in the figures are the result of approximation of the experimental spectra of the effective masses of proton and π-pairs M(π-p) by the relativistic Breit-Wigner formula [1]: The results of the approximation are given in Table.
Table. Value of the mass MΔ and the width of the mass spectrum G Δ0-isobar
![table][3]

[1]: https://i.postimg.cc/KvVc1p0W/Fig-1-a.png
[2]: https://i.postimg.cc/DwXvLQDw/Fig-1-b.png
[3]: https://i.postimg.cc/zfYJjbZS/table.png

As can be seen from table. 1 width of the mass spectrum of Δ0-isobars, in both types of collisions close to each other.
[1.] D. Higgins, Phys. Rev. D 19, 731 (1979).

Section

Heavy ion collisions at Intermediate and high energies

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