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Peculiarities of the momentum spectra of light fragments at ^{56}Fe fragmentation with incident energy of 230 MeV/nucleon.

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New experimental results were obtained for the fragmentation of 230 MeV/nucleon ^{56}Fe on ^9Be , ^{27}Al , ^{64}Cu targets. The experiment was carried out on the FRAGM setup at TWA heavy ion facility. The detector FRAGM allows to measure the fragment momentum with high accuracy at an angle of 3.5 degrees [1,2]. It was found that the momentum distribution of light fragments in the rest frame of the incident nucleus has a double-humped structure, which is not typical for fragmentation processes. This paper contains a phenomenological description of the magnitude of momentum peak splitting, which is especially manifested in proton spectra and decreases for heavier fragments. Experimental results are compared with data obtained on the FRS-GSI setup [3] and with the predictions of different models of nucleus-nuclear collisions. The possible source of this phenomenon is connected with coulomb effects in the asymmetric fission.

Bibliography

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