

Analysis of production of forward-angle fragments in the $^{22}\text{Ne} + \text{Be}/\text{Ta}(40 \text{ MeV/nucleon})$ nuclear reactions.

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The velocity, charge, and isotopic distributions of the products of nuclear reactions by $^{22}\text{Ne} + \text{Be}/\text{Ta}$ (40 MeV/nucleon) were obtained at COMBAS fragment separator at the U400M Research Facility in JINR. The results of velocity spectra analytical parametrization and isotopic ratios are presented. Velocity distributions are parametrized as consisting of three terms: direct Gaussian-like component representing direct component, second Gaussian-like component at smaller energies having the dissipative nature and exponential component corresponding to velocity attenuation at smaller velocities. The results are compared with model predictions. The discussion of the different mechanisms involved in these types of the reactions is given.

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