

VARIATION OF THE SOURCE VELOCITY IN COLLISIONS OF 2.1 GeV PROTONS WITH GOLD TARGET

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One way of evaluating the degree of equilibration in reaction, as well as determine the average source velocity, is through invariant cross section analysis as a function of longitudinal and transverse velocity.

In the present work the source characteristics of multifragmentation are investigated for the p+Au collisions at 2.1 GeV. Beam of 2.1 GeV protons were obtained from the Dubna superconducting accelerator NUCLOTRON. Source velocities of carbon and lithium fragments were measured (Fig. 1) with the 4 π device FAZA [1].

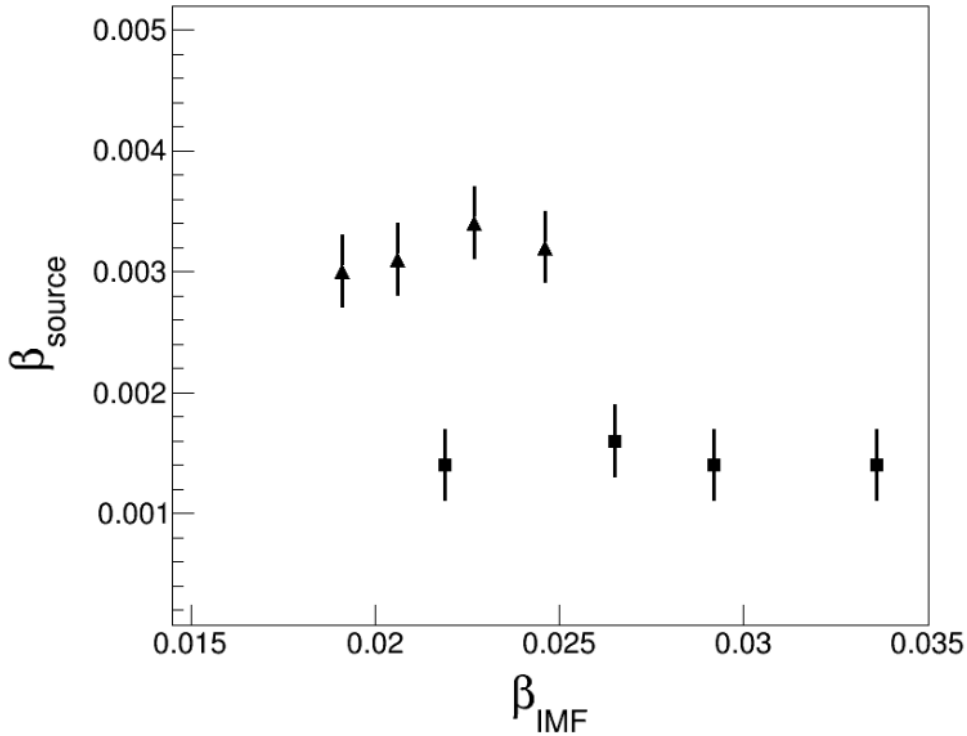


Fig. 1. Source velocities of a target spectator as a function of lithium (boxes) and carbon (triangle) fragment velocity in units of the speed of light.

It was found decreasing source velocities as the charge of fragment is decreasing. Different explanations of this observation are considered.

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1. V.V. Kirakosyan et al., Instr. and Exp. Techn. 51 No. 2, 159 (2008).