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Isospin influence on the Intermediate Mass Fragments production at low energy

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S. Pirrone(1), B. Gnoffo(1),(2), , G. Politi(1),(2) E. De Filippo(1) P. Russotto(3), G. Cardella(1), F. Favela(1), E. Geraci(1),(2) N. S. Martorana(2),(3) A. Pagano(1),(2), E.V. Pagano(3) E. Piasecki(4) L. Quattrocchi(1),(2) F. Rizzo(2),(3) M. Trimarchi(1),(5) and A. Trifirò (1),(5)

(1) INFN, Sezione di Catania -Catania, Italy

(2) Dipartimento di Fisica, Università degli Studi di Catania - Catania, Italy

(3) INFN, Laboratori Nazionali del Sud- Catania, Italy

(4) Heavy Ion Laboratory, University of Warsaw, Warsaw, Poland

(5) Dipartimento di Scienze Matematiche e Informatiche, Scienze Fisiche e Scienze della Terra, Università, Messina - Messina, Italy

The reactions $78\text{Kr} + 40\text{Ca}$ and $86\text{Kr} + 48\text{Ca}$ at 10 A MeV, have been studied in Catania at LNS with the 4π multi detector CHIMERA.

For these systems, we have already analyzed the fusion-evaporation and fission-like processes, [1,2,3]. In this work we present a new study concerning the break-up of the Projectile-Like (PLF) into two fragments, following more violent deep-inelastic collisions.

A selection method has been developed, in order to discriminate PLF break up events from those due to other mechanisms which populate the same region of the phase-space.

A preference for PLF aligned break-up, along the direction of the PLF-TLF separation axis with the light fragment emitted in the backward part, has been evidenced, suggesting the presence of some dynamical effects. As the isospin is expected to play a crucial role in the onset of this process; a comparison between the neutron-rich $86\text{Kr} + 48\text{Ca}$ and neutron-poor $78\text{Kr} + 40\text{Ca}$ systems will be presented.

[1] Gnoffo B., *Il Nuovo Cimento C*, 39 (2016) 275.

[2] Pirrone S. et al., *Journal of Physics: Conf. Series*, 515 (2014) 012018.

[3] Politi G. et al., *JPS Conf. Proc.*, 6 (2015) 030082.

Primary author: Dr PIRRONE, Sara (INFN -Sezione di Catania)

Presenter: Dr PIRRONE, Sara (INFN -Sezione di Catania)

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