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Status of data analysis and preliminary results of the CHIFAR experiment

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The CHIFAR experiment [1] was carried out at LNS in November 2019. Reactions between beams of ^{124}Sn , ^{124}Xe and ^{112}Sn , accelerated at 20 AMeV by the CS, and targets of ^{64}Ni , ^{64}Zn and ^{58}Ni were studied by using the CHIMERA multi-detector [2] coupled to 10 telescopes of the FARCOS array [3]. The ten FARCOS telescopes, grouped in 5 couples, were arranged in a ring-like configuration covering about $\frac{3}{4}$ of the 2π azimuthal range at polar angles, in the laboratory, between 16 and 30 deg. Main topics of the experiment are the competition between reaction mechanisms and the Intermediate Mass Fragment production phenomenon, aiming to extend towards the low energy regime the studies performed in the REVERSE and InKiIsSy experiments, carried out at beam energy of 35 AMeV [4]. Status of data analysis and preliminary results will be presented.

[1] E.V. Pagano et al., Proposal of CHIFAR experiment, approved by the 2017 LNS-PAC.

[2] E. De Filippo and A. Pagano, Eur. Phys. J A50, 32 (2014) and refs. therein; A. Pagano, Nucl. Phys. News 22, 28 (2012) and refs. therein.

[3] E. De Filippo et al., NIM in preparation; E.V. Pagano et al., EPJ Web Conf. 117, 10008 (2016).

[4] P. Russotto et al., Eur. Phys. J A56, 12 (2020); P. Russotto et al., Phys. Rev C 91, 014610 (2015); E. De Filippo et al., Phys. Rev. C 86, 014610 (2012); P. Russotto et al., Phys. Rev. C 81, 064605 (2010); E. De Filippo et al., Phys. Rev. C 71, 044602 (2005); E. De Filippo et al., Phys. Rev. C 71, 064604 (2005); E. Geraci et al., Nucl. Phys. A 732, 173 (2004); A. Pagano et al., Nucl. Phys. A 681, 331 (2001).

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Classification de Session: Isospin Effects and EoS in nuclear reactions

Classification de thématique: Isospin Effects and EoS in nuclear reactions: Status of data analysis and preliminary results of the CHIFAR experiment