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Decay competition in IMF production in the collisions $^{78}Kr+^{40}Ca$ and $^{86}Kr+^{48}Ca$ at 10 A.MeV

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De-excitation modes of compound systems ^{118}Ba and ^{134}Ba, produced respectively in the $^{78}Kr+^{40}Ca$ and $^{86}Kr+^{48}Ca$ collisions at 10 A.MeV, are investigated. In particular, the competition between the various disintegration decay paths of medium mass compound nuclei, formed by fusion processes and the isospin dependence of the decay process are studied. Data were taken at the INFN-Laboratori Nazionali del Sud (LNS) by using the CHIMERA array and complement a former experiment performed at GANIL where the same mechanisms were studied at lower excitation energies [1], [2]. First results show evident staggering effects in the Z distributions, as well as different isotopic composition and neutron enrichment for the reaction products in the two systems [3], [4] and [5]. Cross sections calculations of the reaction products are in progress in order to shed light about the isospin degree influence on the effective interactions eon the reaction mechanism and fragments production.

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