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Influence of the N/Z degree of freedom on the decay modes of excited nuclear complex formed in Kr+Ca reactions at 5.5 AMeV

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Abstract

The N/Z degree of freedom is expected to play a crucial role in the decay modes of excited nuclei and in the competition between strongly dissipative and fusion mechanisms. In this contribution we present results obtained in ^{78,82}Kr+^{40}Ca reactions at 5.5 AMeV using the INDRA detector at GANIL. Discussion will be dedicated to various characteristics of the production of light fragments as for example, kinetic energy distributions, odd-even staggering of the cross-sections and excitation energy stored in fragments. These observables seem to reflect the interplay between the N/Z and angular momentum degrees of freedom at the separation phase. The set of data provides some hints for further explorations in the context of reaction with neutron rich projectile to be delivered in a near future.