

Isospin influence on the thermal characteristics in the reactions $^{78,86}\text{Kr} + ^{40,48}\text{Ca}$ at 10 AMeV

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The features of alpha particles, emitted in coincidence with Evaporation Residues, produced in the reactions $^{78}\text{Kr} + ^{40}\text{Ca}$ and $^{86}\text{Kr} + ^{48}\text{Ca}$ at 10 AMeV, have been investigated by using the high capabilities of 4 π CHIMERA multidetector.

The thermal evaporation from compound nucleus has been studied within the thermometric method, based on the kinematic approach.

The data analyses show the independence of the energy spectra of evaporated alpha particles from the emission angle in the frame of centre mass and a Maxwellian shape, as it is expected in the case of emission by an equilibrated source. These characteristics have been confirmed, from the comparison with the theoretical prediction of the statistical code GEMINI++.

The values of the temperature, for both systems, have been extracted from these spectra.

Higher temperature has been found for the system with higher neutron enrichment, suggesting that this thermal characteristic is sensitive to the N/Z ratio.