Angular-momentum dependence of cluster-γ competition in pre-equilibrium decay

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Abstract
Pre-equilibrium decay of composite system at excitation energies below — say — 50 MeV is usually formulated neglecting the angular-momentum variables. In fact, they have been incorporated into the model for the equilibration process and the nucleon and γ emissions more than two decades ago [1] and shown to be useful for both nucleon and γ decay [1,2], but their effect is more important in heavy-ion collisions than in reactions induced by light projectiles. At any case, only emissions of nucleons and γ's have been considered within statistical pre-equilibrium models with spin effects till now. Considering clusters within the frame of pre-equilibrium decay is associated with delicate details of their emission, and the cluster-γ competition has been addressed only recently and without angular momentum [3,4]. We aim here to indicate the effects of angular momentum on this competition.

References
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