Multimodal fission in heavy ions reactions

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Mass, energy and folding angle distributions of the fission fragments as well as multiplicities of neutron and \(\gamma\)-quanta emissions accompanied the fission process were measured for fission of \(^{226}\)Th, \(^{227}\)Pa and \(^{234}\)Pu compound-nuclei produced in reactions with \(^{18}\)O and \(^{26}\)Mg ions in a wide energy range of projectiles. Data were analysed with respect to the fission modes presence. Presence of the asymmetric fission was observed even at very high initial excitation for all the measured systems. The fission mode \(SI\) was found to be dominative in asymmetric fission of \(^{234}\)Pu. Reactions with not full linear momentum transfer were observed in folding spectra for all the measured systems. It was found that dependencies of \(\gamma\)-quanta multiplicities on fission fragments folding angles have different behaviour for different energies of projectile.