Contribution ID: **293** Type: **Oral talk (15 min + 5 min questions)**

Multi-step neutron emission probabilities in heaviest nuclei

The probability of realization of xn channel is calculated for superheavy nuclei with Z > 114 using Monte Carlo method. The result is compared with the analytical expression based on assumption of Maxwellian distribution for neutron energy. The kinetic energy distribution of neutrons in multi-step decay process is analyzed and applied for the estimation of survival probabilities under xn, pxn, and αxn channels. Nuclear level densities are calculated with the superfluid formalism using the single-particle energies obtained with the Wood-Saxon potential diagonalization at the ground state and fission saddle point. This allows us to take into account pairing and shell effects in the calculation of energy dependent widths for various decay channels.

The speaker is a student or young scientist

Yes

Section

1. Nuclear structure: theory and experiment

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Session Classification: Nuclear structure: theory and experiment