

Alpha-cluster formation and decay in nuclei

Thursday, 10 October 2019 16:00 (20 minutes)

We present a microscopic calculation of α -cluster formation in heavy nuclei by using the quartetting wave function approach. The intrinsic structure of the α -like cluster and the center-of-mass motion of the quartet are analyzed. The α -cluster formation is found to be sensitive to the interplay of the mean field felt by the α -cluster and the Pauli blocking as a consequence of antisymmetrization. The striking feature of α -cluster formation probability across the major shell closures of 82 protons and 126 neutrons is reproduced.

Abstract Type

Talk

Primary author: Prof. CHANG, Xu (Nanjing University)

Presenter: Prof. CHANG, Xu (Nanjing University)

Session Classification: S2: 核反应、核天体物理

Track Classification: 核反应、核天体物理