
Abstract

The capturing of the halo proton into the core of hydrogen-like ^{13}N halo nucleus has been studied under the intense field of linearly polarized laser within non-relativistic limits. Halo capture is achieved by nuclear transition caused by oscillating field of laser assisted electron. Relevant time dependent case is studied theoretically within the regime of perturbation theory. Transition probability for halo-less state has been calculated using nuclear matrix element. The variations in the probability of halo proton capture with the change in the intensity and frequency of incident laser have been shown graphically.