Abstract

Atomic and molecular stabilization in extremely intense laser fields has been studied extensively over the past few years in the field of laser-atom physics. Though this might sound counter-intuitive to the process of ionization, there have been a number of theoretical studies to prove this idea and a few recent experiments which give direct evidence of this concept. Here, we examine this phenomenon of stabilization in the high- intensity regime for benzene using a circularly polarized pulse. Atoms have been studied previously in a circularly polarized pulse and their behavior suggests an interesting outcome for benzene. One of the applications of this outcome could be to gain a temporal control over proton migration through the center of benzene provided we use the right set of laser parameters. This is a fascinating phenomenon to think of when we remember that there is a π electron cloud above and below the ring due to which the field free benzene molecule will not hold the proton at the center.