

Abstract Submitted
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Molecular frame and recoil frame photoelectron angular distributions from dissociative photoionization of NO₂ including the effects of rotation¹ RICHARD CARRANZA, ROBERT LUCCHESI, Texas A&M University — We report the computed molecular frame photoelectron angular distributions and recoil frame photoelectron angular distributions, taking into account the influence of rotation between ionization and dissociation, for the single-photon ionization of the non-linear NO₂ molecule leading to the $(1a_2)^{-1}b^3A_2$ and $(4a_1)^{-1}3A_1$ states of NO₂⁺. Additionally, we report the effects of channel coupling by employing the Complex Kohn variational method and comparing the results to computed single-channel photoionization cross sections. By comparing computed and measured photoionization cross sections we can estimate an upper bound to the lifetime of the initially produced ion state with respect to dissociation.

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