

Abstract Submitted
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Photoabsorbtion and Photoionization of Diatomic Molecules

ALEJANDRO SAENZ, IRINA DUMITRIU, Humboldt-University Berlin, 10117 Berlin (Germany) — The photodissociation spectra of HeH^+ will be presented together with photoionization cross sections of the alkali dimer cations Li_2^+ , Na_2^+ , and LiNa^+ . The latter have been calculated using two methods: a time-independent perturbative method and a time-dependent non-perturbative one. The photodissociation of HeH^+ which is of interest for astrophysics and the tritium neutrino-mass experiments currently draws special attention because of the newly developed FEL experimental set-up FLASH in Hamburg at which dissociation of HeH^+ by VUV radiation has been investigated [*Phys. Rev. Lett.* **98**, 223202 (2007)]. The alkali dimer cations are presented as a first methodological step to the photoionization of the alkali dimers, but they are also interesting by themselves since no ab initio data were available for the continuum spectra.

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