Arnar Hafliðason, J Phys Chem Biophys 2017, 7:4(Suppl)
DOI: 10.4172/2161-0398-C1-025

Multi-photo-fragmentation of molecules: REMPI and VMI of HBr

Arnar Hafliðason
University of Iceland, Reykjavik, Iceland

Analysis of mass resolved spectra as well as velocity map images derived from resonance enhanced multi-photon ionization (REMPI) of HBr via resonance excitations to mixed Rydberg and valence (ion-pair) states allows characterization of the effect of a triplet-to-singlet[1,5] and singlet-singlet[2,3,4,5] state interaction on further photo-excitation and photo-ionization processes. The analysis makes use of rotational spectra line shifts, line intensity alterations, kinetic energy release spectra as well as angular distributions. Energy-level-dependent state mixing of the resonance excited states is quantified and photo-excitation processes, leading to H^+ formation are characterized in terms of the states and fragmentation processes involved, depending on the state mixing.

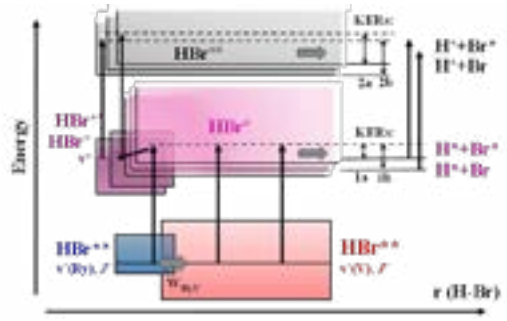

Figure 1: Schematic representation of the main channels involving excitation, fragmentation and ionization of the HBr molecule. KERs arrows indicate kinetic energy release of fragment species. Other arrows show excitation and ionization processes involved.

Biography

Arnar Hafliðason is a PhD student at University of Iceland. He completed his BSc in Chemistry at University of Iceland, with emphasis on Physical Chemistry and Inorganic Chemistry. His PhD project is in the field of Physical Chemistry with focus on photochemistry. He has published three articles, with main emphasis on photo-dissociation, photoionization and state interaction.

arnahaf@gmail.com

Notes: