

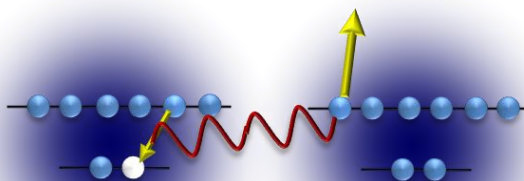
# Ion-dimer collisions: a new way of looking at atomic and molecular collisions

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Investigating reactions involving highly charged ions and molecules is a challenging subject in collision physics since several decades. However, intramolecular charge redistribution before dissociation usually limits the access to the primary process detailed information as the identification of the active atomic site in the molecule is lost. What happens to this electron mobility in the case of Van der Waals bonds as the ones binding rare gas clusters? Do different behaviors appear for covalent and Van der Waals bond molecular systems in collision with ions?

In the recent years, several kinematically complete experiments have been performed allowing, from the detailed picture of the fragmentation and collision dynamics, not only to answer these questions but to access to new information and new processes concerning atomic and molecular collisions. All these points will be discussed and new findings concerning atomic collisions presented.



## References

- J. Matsumoto et al 2010 *Phys. Rev. Lett.* **105** 263202  
H.K.Kim et al 2013 *Phys. Rev. A.* **88** 042707  
H.K.Kim et al 2014 *Phys. Rev. A* **89** 022704  
W. Iskandar et al 2014 *Phys. Rev. Lett.* **113** 143201  
W. Iskandar et al 2015 *Phys. Rev. Lett.* **114** 033201

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