

Françoise Remacle
Publication list- July 2025

295 publications in international peer reviewed journals, h Index : 52, > 10 400 citations(Google scholar), h Index 44, > 7700 citations (Scopus).

- 295 M. Cardosa-Gutierrez, G. Pandey, R. D. Levine, F. Remacle, *Entanglement of Molecular Orientation and Internal Degrees of Freedom by Ultrafast Photoexcitation in an Ensemble of Initially Randomly Oriented Molecules*. J. Phys. Chem. Lett. 2025, <https://doi.org/10.1021/acs.jpcllett.5c01729>
- 294 V. Singh, R. Gupta, M. Sajjan, F. Remacle, R. D. Levine, S. Kais, *Maximal Entropy Formalism and the Restricted Boltzmann Machine*. The Journal of Physical Chemistry A 129, 5405-5414 (2025).
- 293 K. Komarova, N. A. Gelfand, F. Remacle, R. D. Levine, S. Chakraborty, T. Jackson, O. Kostko, M. H. Thiemens *Photoselective Isotope Fractionation Dynamics of N₂ with Cosmo and Atmospheric Chemistry Perspectives*. Proc. Natl. Acad. Sci. USA, 122, e2511172122 (2025).
- 292 J. R. Hamilton, F. Remacle, R. D. Levine, *Compacting the Time Evolution of the Forced Morse Oscillator Using Dynamical Symmetries Derived by an Algebraic Wei-Norman Approach*. J. Chem. Theory Comput. **21**, 4347-4356 (2025).
- 291 M. Lucchini, M. Cardosa-Gutierrez, M. Murari, F. Frassetto, L. Poletto, M. Nisoli and F. Remacle, *Isotope Effect on the Few-Femtosecond Relaxation Dynamics of the Ethylene Cation*, The Journal of Physical Chemistry A **129**, 3063-3070 (2025).
- 290 S. Ghose, A.-S. Duwez, C.-A. Fustin and F. Remacle, *Response of a Tethered Zn-Bis-Terpyridine Complex to an External Mechanical Force: A Computational Study of the Roles of the Tether and Solvent*, The Journal of Physical Chemistry A **129**, 3423-3424 (2025).
- 289 J. R. Hamilton, R. D. Levine and F. Remacle, *Constructing Dynamical Symmetries for Quantum Computing: Applications to Coherent Dynamics in Coupled Quantum Dots* Nanomaterials **14** (24), 2056 (2024).
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- 287 N. Gelfand, K. Komarova, F. Remacle and R. D. Levine, *Nonadiabatic quantum dynamics explores non-monotonic photodissociation branching of N₂ into the N(4S) + N(2D) and N(4S) + N(2P) product channels* Phys. Chem. Chem. Phys. **26**, 3274-3284 (2024).
- 286 M. Cardosa-Gutierrez, R. D. Levine and F. Remacle, *Electronic coherences built by an attopulse control the forces on the nuclei* J. Phys. B At. Mol. Opt. Phys. **57**, 133501 (2024).
- 285 M. Cardosa-Gutierrez, R. D. Levine and F. Remacle, *Electronic Coherences Excited by an Ultra Short Pulse Are Robust with Respect to Averaging over Randomly Oriented Molecules as Shown by Singular Value Decomposition* J. Phys. Chem. A **128**, 2937-2947 (2024).
- 284 M. Blavier, N. Gelfand, R.D. Levine, and F. Remacle. *Controlling the Time Evolution of Electron-Nuclei Entanglement for Steering Vibronic Coherences Dynamics Induced by Short 1–2 fs Optical Pulses*. in Proceedings of the 8th International Conference on Attosecond Science and Technology. P83-100, 2024. Cham: Springer International Publishing.

- 283 J.R. Hamilton, E. Amarotti, C.N. Dibenedetto, M. Striccoli, R.D. Levine, E. Collini, and F. Remacle *Time-Frequency Signatures of Electronic Coherence of Colloidal CdSe Quantum Dot Dimer Assemblies Probed at Room Temperature by Two-Dimensional Electronic Spectroscopy*. *Nanomaterials*, **13**, 2096 (2023).
- 282 M. Cardosa-Guterriez, G. D. Bo, A. S. Duwez and F. Remacle, *Steering the Mechanism of the Furan-Maleimide Retro-Diels-Alder Reaction to a Sequential Pathway with an External Mechanical Force* *Chem. Sci.*, **14** 1263-1271 (2023).
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- 278 N. Gelfand, K. Komarova, F. Remacle and R. D. Levine, *On the Energy-specific Photodissociation Pathways of ¹⁴N₂ and ¹⁴N¹⁵N Isotopomers to N Atoms of Different Reactivity: A Quantum Dynamical Perspective* *The Astrophysical Journal* **948** (1), 58 (2023).
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- 271 M. Blavier, K. Komarova, C.E.M Gonçalves, R. D. Levine, F. Remacle, *Electronic Coherences Steer the Strong Isotope Effect in the Ultrafast Jahn–Teller Structural Rearrangement of Methane Cation Upon Tunnel Ionization*, *The Journal of Physical Chemistry A*, **125**, 9495-9507 (2021).
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- 264 E. Collini, H. Gattuso, R.D. Levine, F. Remacle, *Ultrafast fs coherent excitonic dynamics in CdSe quantum dots assemblies addressed and probed by 2D electronic spectroscopy*, The Journal of Chemical Physics **154** (2021) 014301.
- 263 A. Valentini, S. van den Wildenberg, F. Remacle, *Selective bond formation triggered by short optical pulses: quantum dynamics of a four-center ring closure*, Physical Chemistry Chemical Physics **22** (2020) 22302-22313.
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- 261 K.G. Komarova, S. van den Wildenberg, F. Remacle, R.D. Levine, *Correlated electron–nuclear motion during non-adiabatic transitions in LiH and its isotopomers*, Journal of Physics B: Atomic, Molecular and Optical Physics **53** (2020) 134001.
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- 253 E. Collini, H. Gattuso, L. Bolzonello, A. Casotto, A. Volpato, C.N. Dibenedetto, E. Fanizza, M. Striccoli, and F. Remacle, *Quantum Phenomena in Nanomaterials: Coherent Superpositions of Fine Structure States in CdSe Nanocrystals at Room Temperature*. The Journal of Physical Chemistry C, 2019. **123**(51): p. 31286-31293.

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