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Beyond the Born-Oppenheimer static surface model for molecule-surface reactions

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Curriculum Vitae

Paul Spiering was born on the 21st of November 1990 in Bergschenhoek (the Netherlands). From 2003 to 2009 he followed pre-university education (Vorbereidend Wetenschappelijk Onderzoek) at the Wolvert van Borselen scholengemeenschap in Rotterdam (the Netherlands). He received his B.Sc. degree in Molecular Science and Technology in 2012 from both the Technical University Delft and Leiden University. Continuing his studies at Leiden University, he received his Chemistry M.Sc. degree in 2015. His studies also included a six-month long assessed internship with Royal Dutch Shell in Rijswijk (the Netherlands). From 2014 up until 2017, Paul has been the treasurer of Stichting Kinderkampen Delftsche Zwervers. In 2015, Paul started with his PhD research in the group of dr. Jörg Meyer at the Leiden Institute of Chemistry in the Netherlands. His research was funded by Netherlands Organisation for Scientific Research (NWO).

List of Publications

- [1] P. Spiering and J. Meyer. “Machine-Learning Based Continuous Representations of Electronic Friction Tensors”. In preparation.
- [2] P. Wright, P. Spiering, M. F. Somers, and J. Meyer. “Beyond the Frozen Surface-Approximation for H₂ on Cu(111): Rydberg Potentials vs Neural Networks”. In preparation.
- [3] P. Spiering and J. Meyer. “Testing Electronic Friction Models: Vibrational De-Excitation in Scattering of H₂ and D₂ from Cu(111)”. In: *J. Phys. Chem. Lett.* 9 (2018), pp. 1803–1808.
- [4] P. Spiering, M. Wijzenbroek, and M. F. Somers. “An Improved Static Corrugation Model”. In: *J. Chem. Phys.* 149 (2018), p. 234702.
- [5] P. Spiering, K. Shakouri, J. Behler, G.-J. Kroes, and J. Meyer. “Orbital-Dependent Electronic Friction Significantly Affects the Description of Reactive Scattering of N₂ from Ru(0001)”. In: *J. Phys. Chem. Lett.* 10 (2019), pp. 2957–2962.

Afterword

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