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Attosecond electronic and nuclear quantum photodynamics of ozone[1] GABOR JOZSEF HALASZ, Department of Information Technology, University of Debrecen, H-4002 Debrecen, PO Box 400, BENJAMIN LASORNE, Institut Charles Gerhardt, CNRS, Universit de Montpellier, F-34095 Montpellier, France, FABIEN GATTI, Institut des Sciences Molculaires dOrsay (UMR 8214), CNRS, Universit Paris-Sud/Paris-Saclay, F-91405 Orsay, France, PIERO DECLEVA, Dipartimento di Scienze Chimiche, Universit di Trieste, Via L. Giorgieri 1, 34127 Trieste, Italy, AGNES VIBOK, Department of Theoretical Physics, University of Debrecen, H-4002 Debrecen, PO Box 400, Hungary — In the last few years we reported a series of numerical simulations proving that it is possible to create an electronic wave packet and subsequent electronic motion in a neutral molecule photoexcited by a UV pump pulse within a few femtoseconds. The ozone molecule has been served as sample system. By using extreme ultraviolet probe pulse the splitting of the excited B state nuclear wavepacket were followed into a path leading to molecular fragmentation and an oscillating path, revolving around the Franck-Condon point with 22-fs wave packet revival time. Recent experiment was strongly corroborated with our full quantum-mechanical ab initio simulations.

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