

# 孙兆鹏

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### 教育经历

- 2012.9~2016.7: 山东大学 原子与分子物理专业学习, 获得理学博士学位;
- 2009.9~2012.7: 山东大学 原子与分子物理专业学习, 获得理学硕士学位;
- 2004.9~2008.7: 山东建筑大学 应用物理专业学习, 获得理学学士学位;

### 工作经历

- 2016.7~至今: 鲁东大学物理与光电工程学院从事教学科研工作;

### 研究领域

- 强激光场中原子分子的电离和解离动力学
- 小分子反应动力学
- 反常扩散与反常统计

### 承担研究课题

- 山东省自然科学基金面上项目: 激光控制小分子光缔合反应的理论方法研究, 资助金额: 10 万, 2023-2025。 (主持在研)
- 国家自然科学基金青年项目: 激光控制小分子光缔合反应的理论方法研究, 资助金额: 25 万, 2017-2020。 (主持结题)
- 北京大学人工微结构和介观物理国家重点实验室开放课题: 飞秒双色场作用下  $H_2^+$  分子的力学行为及其相干调控, 资助金额: 6 万, 2020。 (主持结题)

### 主讲课程

- 本科生课程: 《大学物理》、《光纤通信基础》、《光通信原理与技术》
- 研究生课程: 《高等原子与分子物理》

### 代表性成果

在 Journal of Chemical Physics、Physical Chemistry Chemical Physics、Physical Review E 等国内外学术期刊上发表论文多篇。代表性成果如下:

#### 强激光场中原子分子的电离和解离动力学:

- [1] **Zhaopeng Sun\***, Yunquan Liu\*, "Directly revealing the geometric phase effect of dissociative  $D_2^+$  by two-color strong field photodissociation", *Physical Chemistry Chemical Physics*, 25, 17397 (2023)
- [2] Wenquan Jing, **Zhaopeng Sun**, Songfeng Zhao\*, Chuancun Shu\*, "Unveiling Coherent Control of Halomethane Dissociation Induced by a Single Strong Ultraviolet Pulse", *Journal of Physical Chemistry Letters*, 14, 11305 (2023)
- [3] **Zhaopeng Sun\***, Hongbin Yao, Xianghe Ren, Yunquan Liu, Dehua Wang, Wenkai Zhao, Chunyang Wang, Chuanlu Yang\*, "Imaging of electron transition and bond breaking in the photodissociation of  $H_2^+$  via ultrafast X-ray photoelectron diffraction", *Optics Express*, 29, 10893 (2021)
- [4] **Zhaopeng Sun\***, Chunyang Wang, Wenkai Zhao, Chuanlu Yang\*, "Mapping of the light-induced conical intersections in the photoelectron spectra of  $K_2$  molecules", *Spectrochimica Acta Part A: Molecular and Biomolecular*, 207, 348 (2019)
- [5] **Zhaopeng Sun\***, Hongbin Yao, Chunyang Wang, Wenkai Zhao, Chuanlu Yang\*, "Quantum interference in the femtosecond photoionization spectra of NaI molecules", *Laser Physics Letters*, 16, 016001 (2019)
- [6] **Zhaopeng Sun\***, Chunyang Wang, Wenkai Zhao, Chuanlu Yang\*, "Geometric phase effects on photodissociation dynamics of diatomics", *Journal of Chemical Physics*, 149, 224307 (2018)
- [7] **Zhaopeng Sun**, Chunyang Wang, Wenkai Zhao, Yujun Zheng\*, Chuanlu Yang\*, "Control of photodissociation of the NaI molecule via pulse chirping", *Physical Chemistry Chemical Physics*, 20, 20957 (2018)
- [8] **Zhaopeng Sun**, Yujun Zheng\*. "Short-time Chebyshev wave packet method for molecular photoionization," *Chemical Physics Letters*, 659, 182 (2016)
- [9] **Zhaopeng Sun**, Chuanlu Yang, Yujun Zheng\*. "Laser-induced dissociation dynamics of triatomic molecule in electronic excited state: A full-dimensional quantum mechanics study," *Journal of Chemical Physics*, 143, 224309 (2015)
- [10] **Zhaopeng Sun**, Yujun Zheng\*. "Laser-Driven isomerization of  $HCN \rightarrow HNC$ : The importance of rotational excitation," *Journal of Physical Chemistry A*, 119, 2982 (2015)

### 反常扩散与反常统计：

- [1] **Zhaopeng Sun**, Hao Dong, Yujun Zheng. "Fractional dynamics using an ensemble of classical trajectories," *Physical Review E*, 97, 012132 (2018)

### 小分子反应动力学：

- [1] **Zhaopeng Sun**, Wenkai Zhao, Chuanlu Yang\*, "Quantum reaction dynamics of  $C(^1D)+HD \rightarrow CH(CD)+D(H)$  on the ground state potential energy surface," *International Journal of Quantum Chemistry*, 25431, 1 (2017)
- [2] **Zhaopeng Sun**, Chunfang Zhang, Shiyong Lin, Yujun Zheng\*, Qingtian Meng, and Wensheng Bian\* "Quantum reaction dynamics of the  $C+H_2(D_2) \rightarrow CH(D)+H(D)$  on a new potential energy surface," *Journal of Chemical Physics*, 139, 014306 (2013)
- [3] **Zhaopeng Sun**, Shiyong Lin, Yujun Zheng\*. "Adiabatic and non-adiabatic quantum dynamics calculation of  $O+D_2 \rightarrow OD+D$  reaction," *Journal of Chemical Physics*, 135, 234301 (2011)