Xingyu Su

Personal Info

Name:	Xingyu Su (苏星宇)
Email:	suxy15tsinghua@gmail.com
	su-xy19@mails.tsinghua.edu.cn
Phone:	+86 18728785954
Website:	https://suxy15.github.io

Education

2019/09-present	**Tsinghua Unveristy**, Beijing, P.R. China Ph.D. in Center for Combustion Energy
2018/07-2018/08	**Duke Univeristy**, Durham, NC, USA research intern in Department of Mechanical Engineering and Materials Science
2015/09-2019/07	**Tsinghua Unveristy**, Beijing, P.R. China B.S. in Department of Energy and Power Engineering Minor in Computer Technology and Application

Research Experience

2020/03-present	Kinetic parameter optimization via neural ordinary differential equation *Advisor*: Prof. Zhuyin Ren Neural networks; Reaction mechanism; Parameter optimization
2019/10-2020/03	Quantification of modeling uncertainties in turbulent flames through successive dimension reduction *Advisor*: Prof. Zhuyin Ren Active subspace; Uncertainty propagation; Turbulent combustion
2018/11-2020/05	Uncertainty analysis in mechanism reduction via active subspace and transition state analyses *Advisor*: Prof. Zhuyin Ren Mechanism reduction; Uncertainty quantification; Active subspace; Transition state
2018/07-2018/08	Image based sorter *Advisor*: Prof. Tony Jun Huang, Duke Univeristy Real-time image processing; Droplet tracking; Experiment

Publications

1. **X. Su**, W. Ji, L. Zhang, W. Wu, Z. Ren, S. Deng. Neural differential equations for inverse modeling in model combustors, 2021, under review, [preprint].
2. N. Wang, Q. Xie, **X. Su**, Z. Ren. Active Subspace Methods for the Analysis and Optimization of Turbulent Combustion[J/OL]. Acta Aeronautica et Astronautica Sinica, 2021, 42:625228 (in Chinese), [paper].
3. **X. Su**, W. Ji, Z.Ren. Uncertainty analysis in mechanism reduction via active subspace and transition state analyses[J]. Combustion and Flame, 2021, 227:135-146, [paper], [code].
4. H. Zhu, P. Zhang, Z. Zhong, J. Xia, J. Rich, J. Mai, **X. Su**, Z. Tian, H. Bachman, J. Rufo, Y. Gu, P. Kang, K. Chakrabarty, T.P. Witelski, T.J. Huang. Acoustohydrodynamic tweezers via spatial arrangement of streaming vortices. Science Advances, 2021, 7(2):eabc7885, [paper].
5. N. Wang, Q. Xie, **X. Su**, Z. Ren. Quantification of modeling uncertainties in turbulent flames through successive dimension reduction[J]. Combustion and Flame, 2020, 222:476-489, [paper].

6. P. Zhang, W. Wang, H. Fu, J. Rich, **X. Su**, H. Bachman, J. Xia, J. Zhang, S. Zhao, J. Zhou, T.J. Huang. Deterministic droplet coding via acoustofluidics[J]. Lab on a chip, 2020, 20(23):4466-4473, [paper].
7. P. Zhang, C. Chen, **X. Su**, J. Mai, Y. Gu, Z. Tian, H. Zhu, Z. Zhong, H. Fu, S. Yang, K. Chakrabarty, T.J. Huang. Acoustic streaming vortices enable contactless, digital control of droplets[J]. Science Advances, 2020, 6(24):eaba0606, [paper].

Work Experience

2017/07-2017/08 Hesai Photonics Technology, work as intern in hardware department

Abilities and Skills

Program:	C / C++ / Python / Fortran / Rust / JavaScript
Software:	Matlab / Fluent / Solidworks / AutoCAD
Hardware:	Arduino / Raspberry PI

Honors and Awards

2017/11 National First Prize of China Undergraduate Mathematical Contest in Modeling, China
2017/10 Scholarship for Technology Innovation Excellence, Tsinghua University
2017/04 Third Prize of 35th Challenge Cup, Tsinghua University

Extracurricular Activities

2019/07-2020/07 **Club Leader** at Skyworks Club, Tsinghua University

Hobbies

Roller Skating, Skating, Skiing, Swiming