

# Yifei Jiao

A PhD Student at THU

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## ABOUT ME

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I am a PhD student at Laboratory of AstroDynamics, Tsinghua University, and also a visiting scholar at Lunar & Planetary Laboratory, University of Arizona. My research interests are focused on **asteroid exploration & deflection dynamics**, as well as **the collisional & dynamical evolution of small planetary bodies** in the solar system. I am also engaged in the exploration of numerical simulations and optimization algorithms in planetary science.

## EDUCATION

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<b>Lunar &amp; Planetary Laboratory, University of Arizona</b> <i>Visiting Scholar</i>	Tucson, AZ, USA 2024 – Present
<b>Tsinghua University</b> <i>PhD Student</i>	Beijing, China 2020 – Present
<b>Tsinghua University</b> <i>Bachelor</i>	Beijing, China 2016 – 2020

## EXPERIENCE

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Teaching Assistant for Theoretical Mechanics, Tsinghua University	2020, 2021
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## SCHOLARSHIPS AND AWARDS

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The First/Second Prize Scholarship, Tsinghua University	2022, 2023
Excellent Academic Scholarship, Tsinghua University	2017, 2018, 2019
Excellent Paper Award, Young Scientist Forum of Planetary Science, China	2023
2nd Place, China Trajectory Optimization Competition, China	2020
4th Place, Air Cargo Challenge, Germany	2019

## RESEARCH PUBLICATIONS

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- Y. Jiao**, B. Cheng, Y. Huang, E. Asphaug, B. Gladman, R. Malhotra, P. Michel, Y. Yu, H. Baoyin. *Asteroid (469219) Kamo'oalewa's Intriguing Journey from Lunar Crater Giordano Bruno to Earth 1:1 Resonance*. *Nature Astronomy* (accepted, 2024)
- Y. Jiao**, et al. *Dynamical Constraints Linking Earth Co-Orbital Asteroid Kamo'oalewa to the Lunar Giordano Bruno Impact*. *Lunar and Planetary Science Conference* (2024)
- Y. Jiao**, et al. *Exploring Asteroid (469219) Kamo'oalewa's Possible Origin from Lunar Crater Giordano Bruno*. *Asteroids, Comets, Meteors Conference* (2023)
- Y. Jiao**, X. Yan, B. Cheng, H. Baoyin. *SPH-DEM Modeling of Hypervelocity Impacts on Rubble-Pile Asteroids*. *Monthly Notices of the Royal Astronomical Society* (2023)
- Y. Jiao**, B. Cheng, H. Baoyin. *Optimal Kinetic-Impact Geometry for Asteroid Deflection Exploiting Delta-V Hodograph*. *Journal of Guidance, Control, and Dynamics* (2022)

6. X. Yan, et al. *Material point method (MPM) in simulating hypervelocity impact on asteroids. Icarus (in prep, 2024)*
7. N. Zhang, Z. Zhang, **Y. Jiao**, H. Baoyin. *Multi-Trajectory Combination for Multiple Ground Target Observation by Maneuvering On-Orbit Satellites. IEEE Transactions on Aerospace and Electronic Systems (2023)*
8. Z. Zhang, N. Zhang, **Y. Jiao**, H. Baoyin, J. Li. *Multitree Search for Multisatellite Responsiveness Scheduling Considering Orbital Maneuvering. IEEE Transactions on Aerospace and Electronic Systems (2021)*

## SOFTWARE

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1. **SPHSOL**: A SPH Solver for High-Velocity Impact Simulations in Planetary Science.
2. **Handoff**: A Transition Framework from SPH Fragments to DEM Clumps.