Chenyang Huang

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📍 Shanghai, China

EDUCATION

Shanghai Jiao Tong University   Sep 2020 - Mar 2023

M.Eng., Naval Architecture and Ocean Engineering   Shanghai, China

- GPA: 3.88 / 4.00

Shanghai Jiao Tong University   Sep 2016 - Jun 2020

B.Eng., Naval Architecture and Ocean Engineering   Shanghai, China

- GPA: 3.95 / 4.30; Ranking: 1 / 56

RESEARCH EXPERIENCES

Lagrangian Coherent Structures in Flow Past a Backward-Facing Step   Sep 2021 - Jul 2022

- Performed direct numerical simulation of flow past a backward-facing step in a duct using OpenFOAM
- Uncovered the underlying flow structures by complementary qualitative and quantitative LCS analyses
- Investigated the interaction between hyperbolic and elliptic structures

Immersed Boundary Method and Its Applications   Mar 2021 - Mar 2022

- Developed models for low-Reynolds-number flow past a rotationally oscillating cylinder with an attached flexible filament
- Simulated the flow based on different immersed boundary frameworks using IBAMR

Flow Analysis Based on Lagrangian Coherent Structures   Jan 2020 - Jun 2020

- Conducted direct numerical simulations of lid-driven cavity flow and pitzDaily flow
- Extracted Lagrangian coherent structures based on both heuristic and analytical methods
- Analyzed physical mechanism behind these two flows

Flow and Magnetic Structures in a Kinematic ABC-Dynamo   Sep 2019 - Dec 2019

- Explored the relationship between the flow skeleton structures and the stagnation points of ABC-flow
- Visualized their evolutions in the parameter space of ABC-flow through 100 simulations

PUBLICATIONS

1. **Huang, C.**, Borthwick, A. G., & Lin, Z. (2022). Lagrangian coherent structures in flow past a backward-facing step. Journal of Fluid Mechanics, 947, A4. [PDF]
2. Zhang, T., Lin, Z., **Huang, C**., & Borthwick, A. G. (2020). Flow and magnetic structures in a kinematic ABC-dynamo. Science China Physics, Mechanics & Astronomy, 63(8), 1-6. [PDF]

HONORS & AWARDS

National Scholarship for Graduate Student   Sep 2022

2nd prize in the 17th China Post-Graduate Mathematical Contest in Modeling   Oct 2020

Outstanding Graduate of Shanghai Jiao Tong University   Jun 2020

National Scholarship for Undergraduate Student   Sep 2019

Meritorious Winner of Mathematical Contest in Modeling   Apr 2019

TECHNICAL SKILLS

Programming Languages: C++, MATLAB, Shell script, LaTeX

Open-source Softwares: OpenFOAM, IBAMR