

XINGYAO CAI | RESUME

» Seeking Truth, Pursuing Innovation. «

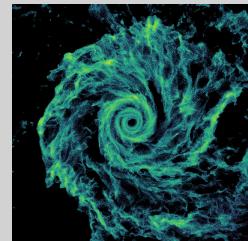


- » **Status:** Bachelor Student in Physics, Zhejiang University
- » **Location:** Hangzhou, China
- » **Major:** Physics, Computing Sciences (Minor)
- » **Fields:** Theoretical Astrophysics
- » **Supervisor:** Prof. Xi KANG
- » **Abilities:** Physics, Machine Learning
- » **Languages:** Python, C Language
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Theoretical Investigation of HI Clumps in the IllustrisTNG Simulation

2022.10 - Now

- » Instructor: Kang Xi
- » Code Architecture Designing, Leading Development
- » A recent paper published in Nature has found a massive HI clump in the compact group of galaxies "Stephan's Quintet", but it is not clear of its origin and whether such a clump is predicted in simulation.
We use the IllustrisTNG data to search such object. We do find a massive and big HI disk in simulation at $z=0$ (see the right image).
We are now tracing the evolution of this HI clump in the simulation, and in particular whether it is formed via cold accretion as claimed by some simulations.



Density Profile Prediction During Tidal Evolution of Subhalo Using AI

2022.06 - 2022.11

- » Instructor: Go Ogiya
- » Neural Network Architecture Designing, Code Writing

Cosmic Real Space Reconstruction from Redshift Space Using AI

2021.09 - 2022.08

- » Instructor: Kang Xi
- » Deep Learning Network Architecture Designing, Code Writing

WORK EXPERIENCE

EDUCATION

Bachelor Student In Physics (Junior), Zhejiang University

2020.09 - Now

- » Zhejiang University First Prize Scholarship, 2020 - 2021
- » Zhejiang University First Prize Scholarship, 2021 - 2022
- » Member of Chu Kochen Honors College, which selects the top5% of students in ZJU, 2020 - Now
- » President of the Student Union, School of Physics, Zhejiang University, 2021 - 2022
- » Courses Taken: Galactic Astronomy, 2021 - 2022

Methods for Mathematical Physics, 2021-2022

Statistical Mechanics, 2022-2023