

Yuanpeng Hou

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EDUCATION	2019 - present University of Chinese Academy of Sciences <i>M.S. Astrophysics (Expected 2022) GPA: 3.78/4.0 Advisor: Huajia Wang</i>	
	2015 - 2019 Southwest Jiaotong University <i>Bachelor of Law GPA: 3.11/4.0</i>	
RESEARCH INTEREST	AdS/CFT correspondence	Quantum information
	Quantum chaos	Black hole
RESEARCH EXPERIENCE	Find a pure state that can approximate black hole (thermal state) according to Eigenstate Thermalization Hypothesis (ETH)	
	<ul style="list-style-type: none">• Make use of the monodromy method for conformal blocks, Zamolodchikov’s recursive relation to calculate the entanglement entropy and Renyi entropy of primary state.• Calculate the OTOC in a primary state and compare it with Lyapunov exponent behavior of the black hole (thermal state).• Find the descendant state or their linear superposition that may correspond to a black hole (thermal state).	
	Level three null state monodromy method for conformal blocks	
	<ul style="list-style-type: none">• Insert a null state at level three or higher level into the correlation function on 2D CFT.• According to the monodromy condition of this null state, calculate conformal blocks.• Find the connection between level three and level two null state monodromy method, dig out the connection and structure of Virasoro algebra and conformal blocks.	
	Quantization of the Deformed Almheiri–Polchinski (AP) model	
	<ul style="list-style-type: none">• Deal with the canonical quantization problem of the deformed AP model. The quantum state wave function corresponding to the deformed AP can be obtained by the method of Daniel Harlow and Daniel Jafferis.• Verify whether It can perfectly return to the AP model by taking the limits of the parameters. Find the relationship between the thermofield double state and the quantum state corresponded to the deformed AP model.	
	Calculation of the entropy of multiple islands in replica wormholes	
	On the basis of the replica wormholes solution proposed by scholars to solve the Hawking information paradox, we use the Island formula to calculate the entropy of Hawking radiation in the case of multiple islands and to understand the contribution of it and a single island to the entropy of Hawking radiation. This work is in progress.	
	The legality of “Valuation Adjustment Mechanism” in Private equity investment	
	<ul style="list-style-type: none">• This is a subject research in the field of law. Identify the legal nature of Private equity investments and Valuation Adjustment Mechanism.• Analyze the legality of Valuation Adjustment Mechanism based on the case, and	

find that it is contrary to Article 20 of Chinese "Company Law" and Article 52 of the "Contract Law".

PUBLICATION Yue Si, **Yuanpeng Hou**, Yu Zhao, Ruoyu Li, The legality of "Valuation Adjustment Mechanism" in Private equity investment. Legal Expo Journal, 2018, 18.

COMPUTER SKILLS Mathematica, MATLAB.
Markdown, L^AT_EX, C, HTML.
Word, Excel, PowerPoint, Flash.

EXPERIENCE **Member** Reading club in Kavli Institute of Theoretical Sciences
Mar. 2021 - present Beijing, China

I usually organized reading clubs with my classmates, such as reading conformal field theory, string theory, recent papers, etc. I also explained some chapters and discuss issues with others.

Intern Bangzhidao Enterprise Management Co., Ltd.
Sep. 2018 - Nov. 2018 Chengdu, Sichuan Province, China

This is a college graduate internship. During those two months, I mainly went to the company to process documents for some jobs, write or modify manuscripts written by colleagues, to avoid errors in professional legal terminology. I also assisted the office director to prepare plans for product sales on campus and analyze the sales results.

Intern China Mobile, Sichuan Branch
Jan. 2017 - Oct. 2017 Chengdu, Sichuan Province, China

- On Saturdays and Sundays, I went to the company office to process various sales forms and deal with customer-related issues.
- Assisted the office director to prepare plans for product sales on campus and analyzed the sales results.

Minister of Propaganda Department Sino-Foreign Exchange Association
Sep. 2016 - Sep. 2018 Southwest Jiaotong University

- Handled various things in the club department, such as propaganda Chinese-foreign exchange activities, posters, interviews with foreign students, organization of Chinese-foreign student networking activities, etc.
- Operated the club's WeChat public account, various self-media, reported the news in the club, etc.

AWARD AND HONORS

Sep. 2020	Postgraduate Scholarships of the University of Chinese Academy of Sciences
Sep. 2019	Postgraduate Scholarships of the University of Chinese Academy of Sciences
Apr. 2018	Excellence Award in the 2nd National University Student Environmental Protection Knowledge Contest.
Nov. 2017	Excellent team member of China Mobile Communications Corporation.
Sep. 2016	Second Prize of Southwest Jiaotong University Academic Scholarship.