Feng Pan

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Education

2017.9- Present **Institute of Theoretical Physics, Chinese Academy of Sciences, Beijing**, *PhD in Physics*, Supervisor: Prof. Pan Zhang, Estimated graduation time: 2022.6.

2015.9- 2016.1 **Massachusetts Institute of Technology, Cambridge**, *Exchange Student*, Physics.

2013.9- 2014.1 **National Tsing Hua University, Hsinchu**, *Exchange Student*, Mathematics & Physics.

2012.9- 2016.6 **Nanjing University of Aeronautics and Astronautics, Nanjing**, *Bachelor of Science*, Mathematics & Physics.

Professional Experience

2016.3- 2016.6 **Teaching Assistant**, *Nanjing University of Aeronautics and Astronautics*, Thermodynamics and Statistical Mechanics.

Research Interests

Statistical Physics, Tensor Network Algorithm, Computational Quantum Physics.

Publications and Preprints

[1] **Feng Pan**, Keyang Chen, and Pan Zhang, *Solving the sampling problem of the sycamore quantum supremacy circuits*, arxiv:2111.03011 (2021)

In this work, we classically reproduce the exactly same computational task that Google did with their Sycamore quantum circuits and the simulation time is comparable, which challenges the claim of quantum supremacy with Sycamore circuits.

[2] **Feng Pan**, and Pan Zhang, *Simulating the sycamore quantum supremacy circuits*, arxiv:2103.03074 (2021)

[3] Sujie Li, **Feng Pan**, Pengfei Zhou, and Pan Zhang, *Boltzmann machines as two-dimensional tensor networks*, Phys. Rev. B. **104**, 075154 (2021)

[4] **Feng Pan**, Pengfei Zhou, Hai-Jun Zhou and Pan Zhang, *Solving statistical mechanics on sparse graphs with feedback-set variational autoregressive networks*, Phys. Rev. E. **103**, 01203 (2021)

[5] **Feng Pan**, Pengfei Zhou, Sujie Li and Pan Zhang, *Contracting arbitrary tensor networks: General approximate algorithm and applications in graphical models and quantum circuit simulations*, Phys. Rev. Lett. **125**, 060503 (2020)

[6] Ya-Peng Hu, **Feng Pan**, and Xin-Meng Wu, *The effects of massive graviton on the equilibrium between the black hole and radiation gas in an isolated box*, Phys. Lett. B **772**, 553-558 (2017)

Awards

2021 National scholarship for doctoral students, Ministry of Education of China.

2021 Principal Scholarship, Chinese Academy of Sciences.

2020 Shu Guang Scholarship, Dawning Information Industry Co.,Ltd. & ITP, CAS.

2019 Shu Guang Scholarship, Dawning Information Industry Co.,Ltd. & ITP, CAS.

2015 Exchange Student Scholarship, Jiangsu Education Association for International Exchange.

2013 National Scholarship for bachelor students, Ministry of Education of China.