Yi Qiu

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Education

Dalian University of Technology Dalian, China
Bachelor of Science in Applied Physics *Sep. 2017 – May 2021*

Research Experience

Chinese Undergraduate Physics Tournament (CUPT) Sep. 2018 – Aug. 2019
Dalian University of Technology *Dalian, China*

- Design experiments to study the thermal lens effect, and investigate the phenomena in regard to how different parameters determine the "lens" formation.
- Compare between experiments and the numerical simulation results to study the funnel and ball problems.
- Establish analytical model of popsicle chain reaction events, look into its mechanical origin through dozens of elaborate tests.

Chinese Undergraduate Innovation Training Program Mar. 2019 – May 2020
Dalian University of Technology *Dalian, China*

- As team leader of the project "Application of machine learning in Quantum field theory".
- Predict the spectral function by the integral equation of propagator with some prior-data of kernel function.
- Apply BP (Back Propagation) and GAN (Generative adversarial network) algorithms for the spectra generation.

Summer Internship in Astrophysics July 2020 – Aug. 2020
Institute of Modern Physics, Chinese Academy of Sciences *Lanzhou, China*

- Calculate the cross sections of nuclear fusion in star core and compare them with experimental results.
- Manipulate and test the TPC (Time Projection Chamber) with helium-3 neutron detector.
- Analyze the data and plot the energy spectrum of several decay processes using CERN ROOT.

Undergraduate Thesis in Modified Gravity Feb. 2021 – May 2021
Dalian University of Technology *Dalian, China*

- Comprehensive study of gravitational waves in scalar-vector-tensor modified gravity (MOG).
- Compare the reliability of MOG with general relativity by fitting to the shears data of horizon.

Remote Summer Internship in GWs (Gravitational Waves) June 2021 – Sep. 2021
Max Planck Institute for Gravitational Physics (Albert Einstein Institute) *Hannover, Germany*

- Test the importance and necessity of overtones in ringdown phase BBH (binary black holes) qnm (quasi-normal mode) models, while examine the nonlinearity of the waveform inversely.
- Use self-refinement-grid fits to the numerical relativity GW waveforms to recover the true mass and spin of BHs. Compare the error involved in such procedure between different overtone models.

Outreach

AIESEC Dare to Dream Project Mar. 2018 – Aug. 2018

- Contact and interview foreign volunteers, and arrange their trips to China.
- Help foreign volunteers to find host families and accommodation in Dalian, and contact local volunteers to accompany foreign volunteers during the project period.
- Assist foreign volunteers to adapt to the Chinese culture and help them carry out their volunteer works.

Awards and Honors

- **Chinese Undergraduate Physics Tournament (CUPT) national second-class prize**, Chinese Physical Society.*2019*
- **China Undergraduate Mathematical Contest in Modeling (CUMCM) second-class prize in Liaoning**, China Society for Industrial and Applied Mathematics.*2019*
- **Scholarship of Excellent Undergraduates in study**(Ranking 1/41), Dalian University of Technology.*2019-2020*

Computer skills

Applications: LaTeX, COMSOL, IBM SPSS, Origin, Microsoft suite, Apple suite
Research-driven languages: Mathematica, Matlab, Numerical Python