Li **Jingyi**

About me

I graduated from Michigan State with the bachelor of science in physics. Worked on the Reduced Basis Method for solving the nonlinear Schrödinger equation and Quantum Computing Applications in using Variational Quantum Eigensolver(VQE) for Bose-Einstein Condensates. Experimentally I had worked on measuring the spin state transition under external magnetic field in multi-layered Josephson devices. I had committed to tasks in VHDL on Xilinx FPGA for PID controlling used for charged nanoparticle optical feedback cooling. Linguistically I am fluent in German, English, Russian, and Chinese.

Areas of specialization

Computer Physics • Condensed Matter Experiments • Clean Room Technologies • FPGA• Simulation • VHDL • Physics

Interests

Ice-skating • Skiing • Swimming • Bouldering • Trail-running • Violin

Technical Qualification

`Python / Qiskit / Pennylane / MATLAB Simulink / HDL Coder / Xilinx Vivado / E-beam / DUV Photolithography / Plasma Etching`

Email

TeinkBR

jingyi-li-87893213a

Resumé

2025– **IT management/PID algorithm on hardware**
ATF Cooling GmbH · Stuttgart, Germany
Server setting-up and management: Setting up MS Access for the company built on its existing Synology server, building the infrastructure for accessing the server from the open internet with OpenVPN connection. PID controller: Developing inverter logic circuit for the company's industrial cooler/chillers to dynamically adjust the motor for controlling the cooland flow in order to stabilise the temperature cooling process and saves energy cost.

2022–2023 **FPGA Developer/Xilinx board**
Center of Applied Quantum Technology · Stuttgart, Germany
VHDL/Verilog simulation, synthesis and verification on Matlab Simulink Xilinx Vivado to create Phase-Locked control for real time feedback controlling for optical levitated sillica nanoparticles room temperature.

2022–2023 **Research Assistant/Microfabrication**
Max Planck Institute for Solid State Research/Uni Stuttgart · Stuttgart, Germany
Thin film microfabrication of NbNi/GaAs layers using E-line and cleanroom technologies. Photolithography

2022–2023 **Web Developer**
University of Stuttgart, Institute of Computer Physics · Stuttgart, Germany
Designed and developed websites for the Institute of Computer Physics using OpenCMS and Docusaurus.

2021–2022 **Quantum Simulation/GNN-DFT for Condensed Matter Physics**
Institute for Computer Physics · Stuttgart, Germany
Conducted GGA-DFT calculation over the electron density distribution of solid for band structure calculation and compared the result with Message Passing Neural Network(MPNN) with Pygeometry data for band energy prediction

2021–2022 **Quantum Simulation/Low Energy Nuclear Physics**
Facility for Rare Isotope Beams, Michigan State University · East Lansing, United States
Applied Reduced Basis Method to the 1D Bose-Einstein condensate's nonlinear Schrödinger equation and quantum circuits, computing energy and eigenstates from reduced systems.

2021–2022 **Research Assistant/ Experimental low dimensional physics**
Michigan State University · East Lansing, United States
Fabricated Josephson devices for spin-singlet and spin-triplet transition studies. Utilized clean rooms technologies. Analyzed spin/magnetic behavior from measurement in the Superconducting Quantum Interference Device.

Degrees

2022-2024 **Physics**
M.Sc. · University of Stuttgart

2017-2022 **Physics**
B.Sc. · Michigan State University, East Lansing

2015-2017 **Physics**
B.Sc. · Moscow Institute of Physics and Technology, Dolgoprudnyy

Technical Tools

C++, Python, Fortran
Linux, Bash
VHDL,Verilog
Matlab, Simulink
Labview

Works

2022 | Variational Quantum Eigensolver (VQE) to determine ground states in dilute Bose-Einstein Condensates:*Quantum Computing Applications in Nuclear Physics*.

Languages

English C2
Russian C1
German C1
Chinese C2 (mother tongue)

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