

KOHTARO YAMAKAWA

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EDUCATION

University of California Berkeley

PhD student in Physics

August 2020 - Present

Columbia University

Bachelors of Art in Physics and Mathematics

August 2016 - May 2020

Cumulative GPA 3.7984/Physics GPA 3.93/ Math GPA 3.835/Cumulative Graduate GPA 4.0

Dublin Scioto High School

Dual Enrollment at Ohio State University

August 2012 - May 2016

OSU STEM GPA: 3.9875

PROJECTS

Muon Spin Rotation Spectroscopy of Strongly Correlated Systems

Analyzed and conducted μ SR spectroscopy on strongly correlated systems at TRIUMF national particle physics lab with Uemura Research group. Studied the magnetic phase transitions and spin structure of $La_{1-x}Sr_xVO_3$ and presented at the Quantum Complex Matter 2018 conference in Frascati, Italy and the 2019 Columbia Undergraduate Symposium.

Mathematical Physics Study of 2D Topological Insulators

Collaborated in a team of four under Jacob Shapiro proving the bulk-edge correspondence for spectrally gapped topological insulators using Fredholm Theory as part of the Columbia Math REU Program.

Crystal Growth and μ SR Study of Superconducting FeSe

Grew FeSe using Chemical Vapor Transport with Shibauchi Group at the ISSP University of Tokyo Kashiwanoha campus as part of collaboration of detecting the spontaneous time reversal symmetry breaking at the twinned boundary of FeSe using μ SR.

TECHNICAL STRENGTHS

Modeling and Analysis

Mathematica, Python, Quantum Espresso (DFT)

Software & Tools

Latex, MUSRFIT

ACADEMIC ACHIEVEMENTS

Deans List

2016-2020

Alumni Parent Internship Award (2017)

for MUSR research at TRIUMF

Anonymous Internship Fund (2018)

for Crystal Growth at U Tokyo

Class of 1939 Summer Research Fellowship (2019)

for MUSR research at TRIUMF

PUBLICATIONS

Eli Fonseca et al.

Mathematical Physics, Analysis and Geometry **23**, 29 (July 2020)

Zurab Guguchia et al.

Phys. Rev. Mat. **3**, 045001 (Apr. 2019)

Shengli Guo et al.

Phys. Rev. B **99**, 155201 (Apr. 2019)

Sky C. Cheung et al.

Phys. Rev. B **97**, 224508 (June 2018)