Ka Wa Ho

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EDUCATION

University of Notre Dame

Ph.D., High Energy Physics, 2018 - present

The Chinese University of Hong Kong

B.Sc., Physics, 2014 - 2018

RESEARCH

HL-LHC upgrade of the CMS Barrel Electromagnetic Calorimeter

2020 - present

University of Notre Dame

- Design trigger algorithms firmware for real-time off-detector FPGA
- Develop readout software for the data acquisition system

Search for Lepton Flavor Violating Decays of the Higgs Boson

2019 - present

University of Notre Dame

- Search for the exotic decay of $H(125) \to e\mu$ and extra Higgs bosons $X \to e\mu$ with the full Run II proton-proton collisions data collected at CMS
- Search for the exotic decays of $H(125) \to e\tau$ and $H(125) \to \mu\tau$ with the full Run II proton-proton collisions data collected at CMS

Event Reconstruction and Visualization at SNO+

2017

University of Oxford

• Develop vertex reconstruction algorithm for the water phase of SNO+ and visualization of photomultiplier hits

Working Experience

CMS Electromagnetic Calorimeter Shifter

2022 - present

CERN

• Monitor and report data quality of the CMS Electromagnetic Calorimeter during Run III of the LHC

Teaching Assistant

2018 - 2020

University of Notre Dame

• Supervise freshman and sophomore engineering physics laboratory on classical mechanics and electromagnetism

Publications

- 1. CMS collaboration. Search for lepton-flavor violating decays of the Higgs boson in the $\mu\tau$ and $e\tau$ final states in proton-proton collisions at $\sqrt{s}=13$ TeV. Phys. Rev. D, 104(3):032013, 2021
- 2. N. Loukas et al. The CMS Barrel Calorimeter Processor demonstrator (BCPv1) board evaluation. *Journal of Instrumentation*, 17(08):C08005, 2022
- 3. CMS collaboration. Search for the lepton flavor violating decay of a Higgs boson in the e μ final state in proton-proton collisions at $\sqrt{s}=13$ TeV. Technical report, CERN, Geneva, 2023

SCHOLARSHIP

C. N. Yang Scholarship Fung Scholarship $\begin{array}{c} 2017 \\ 2017 \end{array}$

Programming Skills C, C++, Python, MATLAB