

Dr. Gensheng Wang
Argonne National Laboratory
9700 Cass Ave
Lemont, IL 60439

November 14, 2017

Dear Dr. Gensheng Wang,

I recently received word of an opening at the High Energy Physics Division at Argonne National Laboratory (ANL) from one of my colleagues for a postdoctoral research associate position in the experimental cosmology group focusing on the development of superconducting detectors. I would like to apply for the position.

I have worked at the University of California, Los Angeles with Prof. Huan Zhong Huang as a postdoctoral researcher from April, 2016, with CUORE (Cryogenic Underground Observatory for Rare Events) at LNGS (Laboratori Nazionali del Gran Sasso), Italy working on Monte Carlo studies of backgrounds coming from radioactive contamination of the detector and modeling thermal pulse signals of bolometers in a cryogenic environment, as well as various signal processing algorithms.

I received my Ph.D. from the University of Hawaii in 2016 working on track reconstruction and particle ID algorithms in liquid scintillator at KamLAND (Kamioka Liquid Scintillator Antineutrino Detector) in Kamioka, Japan. My dissertation was on indirect dark matter search by looking for a directional excess of neutrino fluxes from the core of the Sun and Earth. According to my understanding, this work is the first ever physics application of neutrino directionality in scintillator. A paper of this work is currently under preparation.

My experience working with CUORE and my interest in exploring new detector technologies toward the upgrade to CUPID (CUORE Upgrade with Particle Identification: the next generation bolometric double beta decay experiment utilizing the light channel in addition to bolometric heat detection in order to fully explore the inverted effective Majorana neutrino mass hierarchy) puts me in a unique position to make a significant contribution to your group. Please feel free to contact me if you have any questions or need further information.

Thank you for your consideration.

Best wishes,

Michinari Sakai

Attached: curriculum vitae, research statement, publication list, list of referees

Michinari Sakai
475 Portola Plaza #5-123B – Los Angeles, CA 90095-1547 – USA
☎ +1 (808) 206 4357 • ✉ michsakai@ucla.edu