

Dr. Dan Bauer
Fermilab MS 127
P.O. Box 500
Batavia, IL 60510

November 05, 2017

Dear Dr. Dan Bauer,

I recently received word of an opening at the Fermilab Center for Particle Astrophysics (FCPA) from one of my colleagues, and I would like to apply for the Postdoctoral Research Associate position working on the next generation (G2) of dark matter direct detection experiments.

I worked at the University of California, Los Angeles 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 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 for this result is currently under preparation.

My interest and experience in ultra-low background experiments in a cryogenic environment, as well as my previous work on dark matter places me in a unique position to apply for your position, and I believe that I can 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

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