

Natural Space Environments Group

Reliability Engineering and Mission

Environmental Assurance Office

NASA/Jet Propulsion Laboratory, Inc

April 14, 2018

Dear Cheryl Cooperstein,

As a budding and motivated physicist, I am extremely interested in the Technologist position working on characterizing space radiation environments and their effects in JPL's Natural Space Environments Group. I would like to apply for the position.

I am currently a post-doctoral scholar at the University of California, Los Angeles (UCLA) with the CUORE (Cryogenic Underground Observatory for Rare Events) neutrinoless double beta decay experiment at LNGS (Laboratori Nazionali del Gran Sasso), Italy. My main responsibility is to oversee simulation studies of background radiation and their effects in the experiment.

With regard to my ability to meet the specific requirements of this job:

- **Education and experience:** Received PhD from University of Hawaii in May, 2016 with 6 years of experience working on particle simulations and algorithm development for novel dark matter search techniques.
- **Background in radiation interactions:** 6 years of experience in particle physics and 2 years of experience in nuclear physics both working with particle and radiation interactions.
- **Experience in radiation transport code:** 8 years of experience working with Geant4.
- **Ability to work independently and interface with project:** At University of Hawaii I led the independent development of a Geant4 detector simulation for a portable neutron/neutrino detector. Modeling results were interfaced with the detector construction team to provide key design criteria. Detector was successfully deployed at the National Institute of Standards and Technology (NIST).
- **Analyzing large data sets:** 8 years of experience with ROOT for analyzing large data sets, 4 years of experience with Python for data manipulation.
- **Publications in peer reviewed journals:** Work published in journals such as The Astrophysical Journal Letters, International Journal of Modern Physics A, Physical Review Letters, European Physical Journal.

I would appreciate an opportunity to meet and discuss my application at an interview. I have also sent my resume and other relevant documents for your consideration. Please feel free to let me know if you have any questions.

Thank you for your time,

Michinari Sakai

Michinari Sakai

475 Portola Plaza #5-123B – Los Angeles, CA 90095-1547 – USA

☎ +1 (808) 206 4357 • ✉ michsakai@ucla.edu