Approved by the Regents
May 20, 2021

PROMOTION RECOMMENDATION
The University of Michigan
College of Literature, Science, and the Arts

Joshua B. Spitz, assistant professor of physics, College of Literature, Science, and the Arts, is recommended for promotion to associate professor of physics, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	2011	Yale University
M.Phil.	2011	Yale University
M.S.	2011	Yale University
B.A.	2006	University of Colorado at Boulder

Professional Record:

2015 - present	Norman M. Leff Assistant Professor of Physics, University of Michigan
2014 - 2015	Research Scientist, Massachusetts Institute of Technology
2011 - 2014	Pappalardo Fellow in Physics, Massachusetts Institute of Technology

Summary of Evaluation:

Teaching: Professor Spitz has taught a wide range of undergraduate courses for both science and non-science students at Michigan. He demonstrates a commitment to excellence in teaching both inside and outside the classroom, fosters an inclusive environment, and consistently explores alternative teaching techniques. Students have expressed strong satisfaction with his effectiveness as an instructor and indicate that they have learned a great deal from him. Professor Spitz also has been a mentor to a strong group of graduate students and post-doctoral researchers, and has an admirable record of involving undergraduate students in his research.

Research: Professor Spitz focuses his research on the understanding of the fundamental nature and interactions of neutrinos, the most prevalent matter particles in the Universe. He is a world expert on neutrino interactions with liquid argon and a pioneer in developing an innovative source of neutrinos from Kaon Decay-At-Rest (KDAR). He is also known for advancing the Liquid Argon Time Projection Chamber technology that is critical for the next generation of neutrino experiments. In addition, Professor Spitz has published a number of influential papers on neutrino phenomenology and related topics.

Recent and Significant Publications:

Acciarri R., Adams C., Asaadi J., Baller B., Basque V., Bolton T., Bromberg C., Cavanna F., Edmunds D., Fitzpatrick R. S., Fleming B., Green P., James C., Lang K., Lepetic I., Littlejohn B. R., Luo X., Mehdiyev R., Palamara O., Scanavini G., Soderberg M., Spitz J., Szelc A. M., Wu W., and Yang T. [ArgoNeuT Collaboration]. (2020). First Measurement of Electron Neutrino Scattering Cross Section on Argon. *Physical Review D* 102 011101(R).

Jordan J. R., Kahn Y., Krnjaic G., Moschella M., and Spitz, J. (2019). Severe Constraints on New Physics Explanations of the MiniBooNE Excess. *Physical Review Letters* 122 081801.

Jordan J. R., Kahn Y., Krnjaic G., Moschella M., and Spitz, J. (2018). Signatures of Pseudo-Dirac Dark Matter at High-Intensity Neutrino Experiments. *Physical Review D* 98 075020.

A. A. Aguilar-Arevalo et al. [MiniBooNE Collaboration]. (2018). First Measurement of Monoenergetic Muon Neutrino Charged Current Interactions. *Physical Review Letters* 120 141802.

Service: Professor Spitz has a strong and productive record of service to both the physics department and the physics community at large. Within the department, he has served on various committees including seminar and colloquium committees, graduate admissions, and the editorial board. Within the physics community, he has organized a number of workshops and collaboration meetings. He is actively participating in developing the long-range plan for particle physics in the U.S. as an organizer of a topical working group on neutrino sources.

External Reviewers:
Reviewer (A): "He is a [junior] leader in the worldwide program to detect and understand accelerator-produced neutrinos. A hallmark of his work is its breadth, which gives him additional physics and leadership opportunities … Spitz's accomplishments more than meet the promotion and tenure standards for a strong department like yours or mine."

Reviewer (B): "Throughout the time that I have known him, [Professor Spitz] has proven to be a talented, accomplished, and extremely productive physicist, deserving of tenure … if there is one place where he has demonstrated his creativity and vision for the field, it is in the development of decay-at-rest neutrino sources. To me, this is what sets apart his tenure case and pushes it to the highest level."

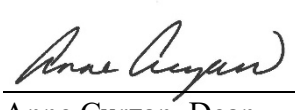
Reviewer (C): "Josh is a very impressive neutrino experimentalist, very versatile, creative, and productive … he is best known for his research on understanding neutrino decay-at-rest sources and how these can be used to study neutrino properties."

Reviewer (D): "Professor Spitz is the leader in analyzing neutrino interactions in argon … Professor Spitz's publication record is perhaps his strongest asset … Spitz's career is off to a very impressive start and I expect to hear further great things from him in the future."

Reviewer (E): "Josh's research is important, varied and prolific … Josh appears to have been the first to propose creating a cleaner beam in which all the neutrinos have the same, known energy… Josh Spitz is making highly significant, widely noticed, highly regarded contributions to neutrino physics."

Reviewer (F): "I would strongly recommend Dr. Joshua Spitz to be a tenured associate professor… Joshua Spitz is the original member of the JSNS2 experiment…he proposed to have measurements on the cross section of muon type neutrinos produced decays at rest of Kaons…and his physics measurement have led the motivation of the physics run of the JSNS2."

Summary of Recommendation:
Professor Spitz has shown the highest intellectual quality, productivity, and leadership in creating and disseminating knowledge in physics. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Assistant Professor Joshua B. Spitz be promoted to the rank of associate professor of physics, with tenure, College of Literature, Science, and the Arts.



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