USC Dornsife
Dana and David Dornsife
College of Letters, Arts and Sciences

Department of Physics and Astronomy

Cosmology with Massive Neutrinos

Jia Liu

Department of Astronomy
University of California, Berkeley

Wednesday, February 17, 2021

12:00p.m.

Zoom Link

Meeting URL: https://usc.zoom.us/j/98052669977

Meeting ID: 980 5266 9977

Ghostly neutrino particles continue to bring surprises to fundamental physics, from their existence to the phenomenon of neutrino oscillation, which implies their nonzero masses. Their exact masses, among the most curious unknowns beyond the Standard Model of particle physics, can soon be probed by the joint analysis of upcoming cosmological surveys including the Vera Rubin Observatory LSST, Simons Observatory, DESI, SPHEREx, Euclid, CMB-S4, and Roman Space Telescope. In this talk, I will first discuss ongoing works studying the effects of massive neutrinos. I will then turn the focus to my major efforts of modeling the challenging small-scale, nonlinear regime of cosmic structures where neutrino effects are expected to be strongest. Finally, I will draw a roadmap towards discovering the neutrino mass over the next decade.

The Department of Physics and Astronomy hosts its Colloquium on Wednesday afternoons through the academic semester at 12:00pm.

See full schedule at http://physics.usc.edu

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