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Cosmic Microwave Background and Large Scale Structure Measures of Neutrino Mass KEVORK ABAZAJIAN, Los Alamos National Laboratory

The clustering of matter on the largest, cosmological scales has provided a window on the mass of the particle with the smallest cross-section, the neutrino. This results from the effects of the expected background of relic cosmological neutrinos on clustering from the largest to smallest scales in the linear theory of cosmological structure growth in combination with precision measures of cosmological matter clustering from observations of the cosmic microwave background and from galaxy surveys. I will review the theoretical underpinnings and caveats of the inferred neutrino mass limits from cosmological large scale structure and the status of current observations from the Wilkinson Microwave Anisotropy Probe of the the cosmic microwave background as well as the large scale structure measures from the Sloan Digital Sky Survey. In addition, I will highlight future cosmological probes of neutrino properties.