

Abstract Submitted  
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**Constraining neutrino mass and warm dark matter with spectroscopic surveys** NATHALIE PALANQUE-DELABROUILLE, CEA-Saclay, EBOSS COLLABORATION, DESI COLLABORATION — The Lyman-alpha forest, which can be measured in the spectra of high-redshift quasars, is a rich source of information. Because it gives access to scales as small as a few tens of Mpc, it allows one to probe the impact, on matter clustering, of the free-streaming of massive neutrinos and warm dark matter particles. The Extended Baryon Oscillation Spectroscopic Survey (eBOSS) measured the Lyman-alpha absorption along nearly 200,000 lines of sight. I will present the constraints on neutrino mass that were derived from these data, which stand among the most stringent limits to date. I will show how the Lyman-alpha data can also lead to competitive constraints on warm dark matter. Finally, I will present the improvements we expect on these topics from the upcoming Dark Energy Spectroscopic Instrument (DESI).

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