
Probing Inhomogeneity in the Helium Ionizing UV Background

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Abstract

I will present an analysis combining the simultaneous measurement of intergalactic absorption by hydrogen (HI Lyman-alpha forest), helium (HeII Lyman-alpha forest), and oxygen (OVI) in quasar spectra using pixel statistics and large-scale filtering. These tracers allow us to study inhomogeneities in the UV background. We detect inhomogeneities on scales of ~ 10 cMpc and > 200 cMpc. We also apply our analysis to the HeII Gunn-Peterson trough and find no evidence of helium reionization when compared to HeII forest data. Our results have implications for $z > 2$ ionizing sources.

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