

Abstract Submitted  
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**Imprint of DESI fiber assignment on anisotropic power spectrum of emission line galaxies**<sup>1</sup> ROBERT N. CAHN, Lawrence Berkeley National Laboratory, LUCAS PINOL, Ecole Normale Supérieure, Paris, France, NICHOLAS HAND, Univ. California, Berkeley, PATRICK MCDONALD, Lawrence Berkeley National Laboratory, UROS SELJAK, Lawrence Berkeley National Laboratory, Univ. of California, Berkeley — The Dark Energy Spectroscopic Instrument (DESI), a multiplexed fiber-fed spectrograph, is a Stage-IV ground-based dark energy experiment aiming to measure redshifts for 29 million Emission-Line Galaxies (ELG), 4 million Luminous Red Galaxies (LRG), and 2 million Quasi-Stellar Objects (QSO). The survey design includes an observation strategy determined by a fiber assignment algorithm that optimizes the allocation of fibers to targets. We investigate the systematic effects of the fiber assignment coverage on the anisotropic galaxy clustering of ELGs and show that, in the absence of any corrections, it leads to discrepancies of order ten percent on large scales for the power spectrum multipoles. We introduce a method where objects in a random catalog are assigned a coverage, and the mean density is separately computed for each coverage factor, and show that this method reduces, but does not eliminate the effect. The angular dependence of the contaminating signal is mostly in purely transverse modes. We find that the effect can be mitigated by binning in angle and excluding contributions near the transverse direction.

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