ABSTRACT ONLY

LANIAKEA IN A COSMOLOGICAL CONTEXT

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Recent observations used local cosmic flow information to define our local supercluster, Laniakea. In this work we present a study on large cosmological N-body simulations aimed at establishing the significance of Laniakea in a cosmological context. We explore different algorithms to define superclusters from the dark matter velocity field in the simulation. We summarize the properties of the supercluster population by their abundance at a given total mass and its shape distributions. We find that superclusters similar in size and structure to Laniakea are relatively uncommon on a broader cosmological context. We finalize by discussing the possible sources of systematics (both in our methods and in observations) leading to this discrepancy.

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