

Detection of galaxies superclusters in simulated cosmological structures

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Abstract

Galaxies form larger-scale structures known as clusters and superclusters. Tully et al used the V-Web algorithm on the flow map of the local universe to define our home supercluster of galaxies, which they names Laniakea, infinite heaven in Hawaiian.

In this work we used similar techniques to detect galaxies superclusters in different N-Body simulations. Using region growing algorithms, an image segmentation method, we detect several large-scale structures of the same order of magnitude as Laniakea (100 Mpc/h). We then perform comparisons of different properties of these structures with our home supercluster, Laniakea.

References

- [1] R. Brent Tully, Hlne. Courtois, Yehuda Hoffman and Daniel Pomarde.
The Laniakea Supercluster of galaxies, Nature, 513 (7516):71-73, September 2014