The clustering amplitude of 7143 clusters from the Sloan Digital Sky Survey (SDSS) is found to increase linearly with cluster mass, closely agreeing with the Gaussian random field hypothesis for structure formation.

In detail, the observed correlation length exceeds pure cold dark matter (CDM) simulation predictions by $\simeq 6\%$, for the standard Planck-based values of the cosmological parameters. We show this is naturally accounted for by free streaming of light neutrinos, which opposes gravitational growth, so clusters formed at fixed mass are fewer and hence more biased than for a pure CDM density field. An enhancement of cluster bias by 7% matches the observations, corresponding to a total neutrino mass, $\Sigma m = (0{:}11\ 0{:}03)\text{eV}$, for the standard relic neutrino density. If ongoing laboratory experiments favor a normal neutrino mass hierarchy then we may infer a somewhat larger total mass than the minimum oscillation based value, $\Sigma m \simeq 0{:}056\text{eV}$, with 90% confidence.