

Median correlation functions

PADILLA N.D.^{1,2}

¹ *Instituto de Astrofísica, Universidad Católica de Chile*

² *Centro de Astro-Ingeniería, Universidad Católica de Chile*

Abstract / Results on the distribution of counts of neighbors around haloes in the Millennium Simulation will be shown, along with an analysis of its shape in order to understand differences between the traditional correlation function and the median correlation function a statistics introduced in Padilla & White (2014). As the median is usually less affected by the tails of a distribution, the amplitude of the median correlations is slightly lower than that of the traditional correlation function, however, we find that median correlations are better connected to theoretical prescriptions. In particular, the dependence of the bias of haloes on halo mass for these statistics is in excellent agreement with the theoretical expectations from spherical collapse by Mo & White (1996), and the linear theory conversion from real to redshift-space provides a better match to the median redshift-space correlations. This facilitates the use the full information of 2-point statistics for cosmological parameter constraints.

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Contact / npadilla@astro.puc.cl