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Constraining spatial curvature with large-scale structure

jeudi 17 novembre 2022 15:00 (20 minutes)

We analyse the clustering of matter on large scales in an extension of the concordance model that allows for spatial curvature. We develop a consistent approach to curvature and wide-angle effects on the galaxy 2-point correlation function in redshift space. In particular we derive the Alcock-Paczynski distortion of $f\sigma 8$, which differs significantly from empirical models in the literature. A key innovation is the use of the 'Clustering Ratio', which probes clustering in a different way to redshift-space distortions, so that their combination delivers more powerful cosmological constraints. We use this combination to constrain cosmological parameters, without CMB information. In the end we show constraints when combining with CMB and BAO data sets.

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Classification de Session: Review and contribution talks