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# Halo/Galaxy Bispectrum with Equilateral-type Primordial Trispectrum

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We investigate the effect of equilateral-type primordial trispectrum on the halo/galaxy bispectrum.
We consider three types of equilateral primordial trispectra which are generated by quartic operators naturally appearing
in the effective field theory of inflation and can be characterized by three nonlinearity parameters, $g_{\rm NL}^{\dot\sigma^4}$, $g_{\rm NL}^{\dot\sigma^2(\partial\sigma)^2}$, and
$g_{\rm NL}^{(\partial\sigma)^4}$.
Recently, constraints on these parameters have been investigated from cosmic microwave background (CMB) observations by using WMAP9 data.
In order to consider the halo/galaxy bispectrum with the equilateral-type primordial trispectra,
we adopt the integrated perturbation theory (iPT) in which the effects of primordial
non-Gaussianity are wholly encapsulated in the linear primordial polyspectrum for the evaluation of the biased polyspectrum.
We show the shapes of the halo/galaxy bispectrum with the equilateral-type primordial trispectra,
and find that one type of the primordial trispectrum provides the same scale dependence as
the gravity-induced halo/galaxy bispectrum.
On the other hand, the other two-types of
primordial trispectra characterized by
provide the common scale dependence which is different from that of the gravity-induced halo/galaxy bispectrum
on large scales.

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