Inflationary non-Gaussianities in the most general second-order scalar-tensor theories

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For very general scalar-field theories in which the equations of motion are at second-order, we evaluate the three-point correlation function of primordial scalar perturbations generated during inflation. We show that the shape of non-Gaussianities is well approximated by the equilateral type. The equilateral non-linear parameter f_NL^equil is derived on the quasi de Sitter background where the slow-variation parameters are much smaller than unity. We apply our formula for f_NL^equil to a number of single-field models of inflation--such as k-inflation, k-inflation with Galileon terms, potential-driven Galileon inflation, nonminimal coupling models (including field-derivative coupling models), and Gauss-Bonnet gravity.

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