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# Measuring primordial non-Gaussianity through weak lensing peak counts

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We explore the possibility of detecting primordial non-Gaussianity of the local type using weak lensing peak counts. We measure the peak abundance in sets of simulated weak lensing maps corresponding to three models $f_{NL}=(0, -100, 100)$. Using survey specifications similar to those of EUCLID and without assuming any knowledge of the lens and source redshifts, we find the peak functions of the non-Gaussian models with $f_{NL}=+/-100$ to differ by up to 15% from the Gaussian peak function at the high-mass end. For the assumed survey parameters, the probability of fitting an $f_{NL}=0$ peak function to the $f_{NL}=+/-100$ peak functions is less than 0.1%. Assuming the other cosmological parameters known, $f_{NL}$ can be measured with an error sigma($f_{NL}$) ~13. It is therefore possible that future weak lensing surveys like EUCLID may detect primordial non-Gaussianity from the abundance of peak counts.

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