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A novel method to combine clustering and lensing analyses for spectroscopic and photometric samples

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I present a new technique for the measurement of the growth of cosmic structures via the power spectrum of weak lensing cosmic shear, which can be straightforwardly combined to classic bias and growth measurements from clustering. It is based on a template-fitting approach, where a redshift-dependent amplitude of lensing modulates a fixed template power spectrum. To allow for tracking the redshift evolution of the signal, the method makes use of the Bernardeau-Nishimichi-Taruya transform, which allows for a localisation of the lensing kernel. I show that this method is able to correctly reconstruct $\Omega\sigma_8$ at the percent level across redshift, thus allowing us to measure the growth of structures unbiased by observing discrete tracers. Moreover, I only make use of measurements on linear scales. I also demonstrate that the method is robust against an incorrect choice of cosmological parameters in the template, thanks to the inclusion of an Alcock-Paczynski parameter.

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