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## Weak lensing magnification around galaxy clusters

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Weak lensing is a powerful tool to estimate the matter distribution around massive galaxy clusters. In this work we consider weak lensing magnification. In general such effects are measured by counting the number of galaxies in circular annuli from the lens centre. In this work we present a new method which improves on the standard approach by using the full galaxy magnitude distribution, rather than a single faint-end magnitude cut. This allows us to differentiate between the two opposing effects of magnification, whereby faint galaxies are introduced into an annulus as they are magnified above the faint-end magnitude limit and removed from an annulus as they are deflected away from the lens centre. Magnification of a galaxy image will shift the galaxy magnitude distribution and the deflection effects will change the normalisation of the distribution, therefore the effects are separable and we can increase the signal-to-noise ratio of such measurements. We investigate this new method using HSC weak lensing data and the Redmapper SDSS galaxy cluster catalogue.

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