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Measuring weak lensing with strong lensing: a proof of concept

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Line-of-sight (LOS) effects in strong lensing – weak distortions to an image induced by the presence of objects such as dark matter haloes along the LOS – have long been considered a nuisance when it comes to analysing strong lensing images. However, it was recently proposed that LOS shear could become a cosmological observable in its own right, if it could be accurately obtained from a given image. In this talk, I show how, using a new formalism, the LOS shear can indeed be measured with percent level accuracy from simulated strong lensing images, paving the way for its use as a new cosmological probe. Based on 2210.07210.

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