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Titulo: Thick disk properties from ultra-deep Stripe82 imaging

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Resumen:

Thick disks can give invaluable information on the formation and early evolution history of galaxies. Our goal is to use multi-band imaging to study their colours and structures in unprecedented detail. For that purpose, we have developed a technique to reach a surface brightness limit of 28.5-29 mag/arcsec^2 with the combined g, r, i bands images from The IAC Stripe82 Legacy Project. Our method consists, first of all, of making a careful analysis of the background and of the masking process. Then, we use IMFIT to perform reliable 2D fitting of the galaxy and its components, which allows us to obtain our PSF-convolved and deconvolved models as well as their residuals. This procedure will allow us to model thick disks at a range of redshifts and elucidate their formation and evolution. In this work we present the characterization of the thick disks in a carefully selected sample of edge-on galaxies. A study of the radial and vertical surface brightness profiles is presented, comparing between our data, the models, and each galactic component. We find that PSF effects are important, but can be accounted for by galaxy modelling. This means that the galaxy outskirts are strongly affected by faint wings of the PSF, which will be a very important issue when dealing with future ultra-deep LSST data.