Weak Lensing Analysis on Abell 115
Mystery of the Dark Matter
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Goal of our Research
• Study the structure and evolution of galaxy clusters by merging
• Check the offset between cluster components through precise mapping of surface mass distribution

Contour : Dark Matter Surface Density
Color map : Smoothed number density
From Okabe et al(2010)

X-ray(blue) and radio(red) contours
Surface Mass Density Map

Future Work
- Test the significance of offset between dark matter and stars
- Measure the mass of the cluster using an NFW profile