MNRAS **000**, 1–2 (2019) Preprint 30 January 2019 Compiled using MNRAS LATEX style file v3.0

Extending the Radial Acceleration Relation using Weak Gravitational Lensing with the Kilo-Degree Survey

Margot M. Brouwer[1,2⋆],

[1] *Kapteyn Astronomical Institute, University of Groningen, PO Box 800, NL-9700 AV Groningen, the Netherlands.*
[2] *Institute for Theoretical Physics, University of Amsterdam, Science Park 904, 1098 XH Amsterdam, The Netherlands.*

Accepted XXX. Received YYY; in original form ZZZ

ABSTRACT
TBW

Key words: gravitational lensing: weak – Surveys – methods: statistical – galaxies: haloes – cosmology: dark matter, theory – gravitation.

⋆ E-mail:brouwer@astro.rug.nl

1 INTRODUCTION

Write the beginning

2 DATA

2.1 KiDS source galaxies

Write the beginning. Need to know:

- What changes as we go to KiDS-1000 (K1000 paper?).

2.2 GAMA foreground galaxies

Write everything.

2.3 KiDS foreground selection

Still need to know:

- Maciek's GL-KiDS selection criteria for K1000.
- Angus' stellar mass method for K1000.

2.4 MICE mock galaxies

Write everything.

2.5 Bahamas mock galaxies

Written by Kyle?

3 DATA ANALYSIS

3.1 Isolated galaxy selection

Write the beginning. Still need to know:

- how to test the isolation criterion.

3.2 Lensing measurement

Write the beginning. Still need to know:

- How (if?) the GGL-pipeline changes with K1000.

3.3 Conversion to radial acceleration

Still need to know: whether we will use the SIS assumption or linear interpolation.

- Test both methods using the Bahamas simulation.

4 THEORETICAL PREDICTIONS

4.1 Analytical CDM model

Written by Kyle?

4.2 Modified Newtonian Dynamics

Write everything.

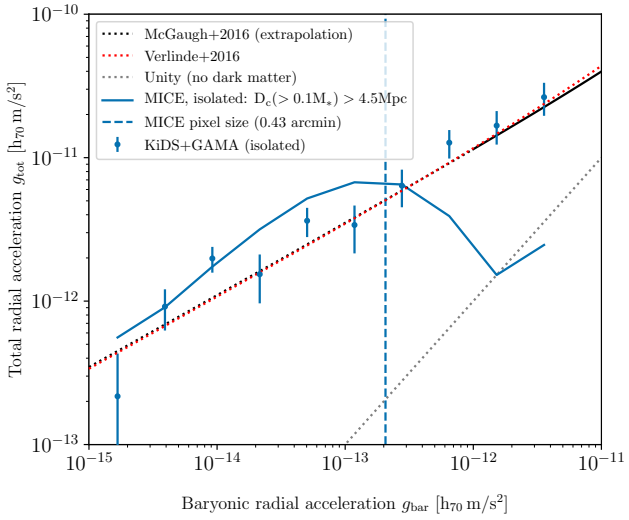

Figure 1. TBW

4.3 Emergent Gravity

Write everything.

5 RESULTS

Write when the results are ready. I still need:

- The K1000 lensing catalogues with ANNz redshifts and stellar masses.
- The results from the Bahamas simulation.

5.1 Isolated galaxies

5.2 Stellar mass bins

6 DISCUSSION AND CONCLUSION

Write at the end.

ACKNOWLEDGEMENTS

Write at the end.

REFERENCES

This paper has been typeset from a TEX/LATEX file prepared by the author.

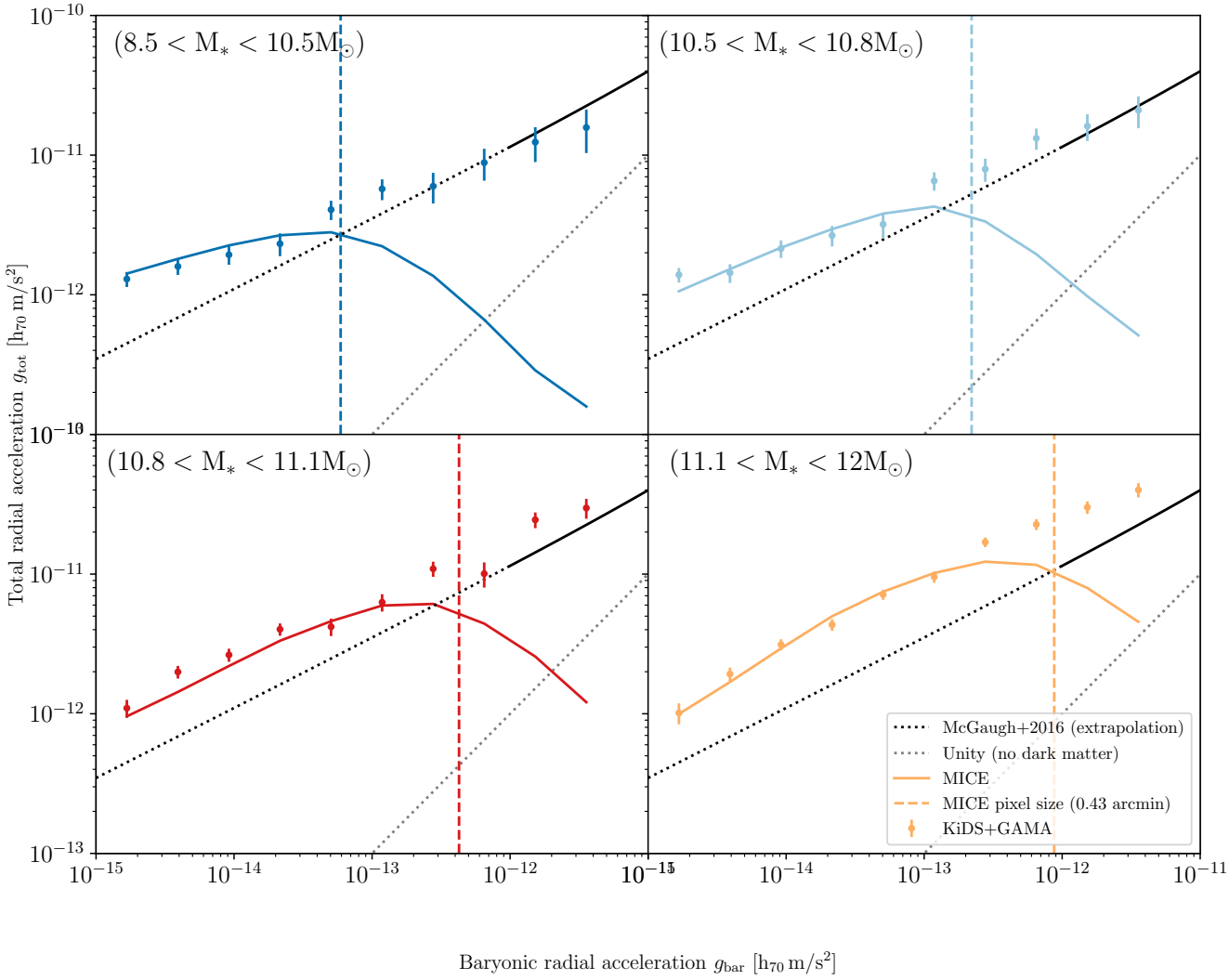
(8.5 < M* < 10.5M⊙)
(10.5 < M* < 10.8M⊙)
(10.8 < M* < 11.1M⊙)
(11.1 < M* < 12M⊙)
McGaugh+2016 (extrapolation)
Unity (no dark matter)
MICE
MICE pixel size (0.43 arcmin)
KiDS+GAMA
Total radial acceleration $g_{\rm tot}$ [h_{70} m/s^2]
Baryonic radial acceleration $g_{\rm bar}$ [h_{70} m/s^2]

Figure 2. TBW

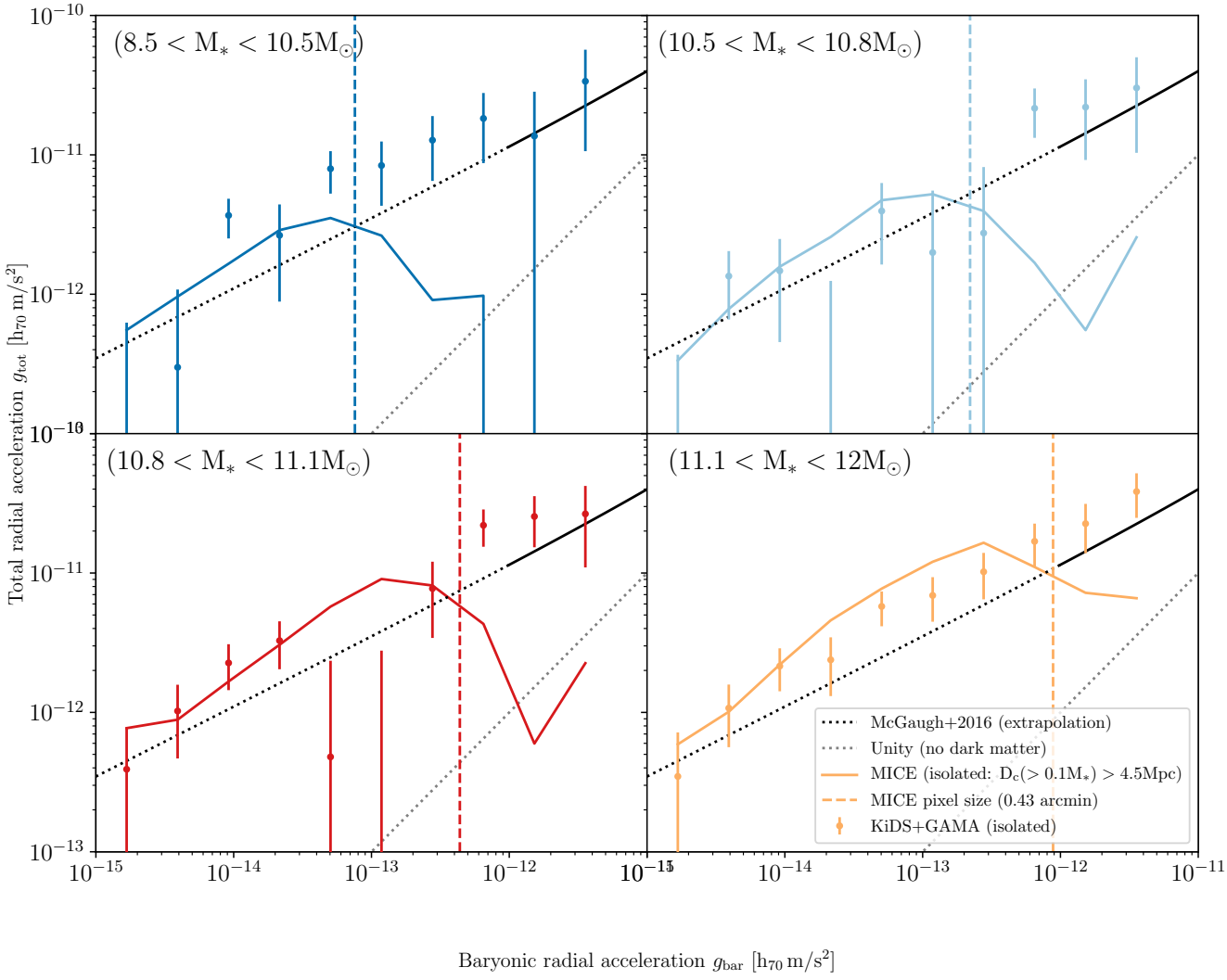

Figure 3. TBW

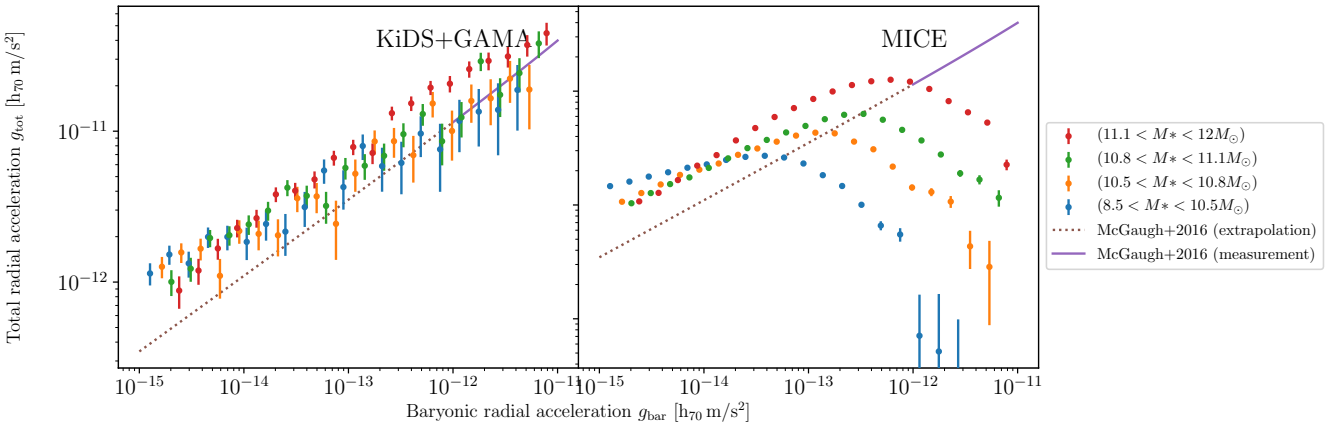

Figure 4. TBW