

Alignment of Light and Mass in Lensing Galaxies

Claudio Bruderer^{1*}, J. I. Read^{1,2}, P. Saha³, J. Coles⁴

¹*Institute for Astronomy, Department of Physics, ETH Zürich, Wolfgang-Pauli-Strasse 27, CH-8093 Zürich, Switzerland*

²*Department of Physics, University of Surrey, Guildford, GU2 7XH, UK*

³*Institute for Theoretical Physics, University of Zürich, Winterthurerstrasse 190, 8057 Zürich, Switzerland*

⁴*Department of Biology and Health, Versailles Saint-Quentin-en-Yvelines University, France*

11 August 2014

ABSTRACT

Key words: Gravitational lensing: strong — galaxies: structure

1 INTRODUCTION

Content:

- Understand galaxy structure
- Relevant to understand and discriminate between e.g. weak lensing (Intrinsic alignments) and alternative gravity theories
- Strong lensing reacts purely due to total mass distribution → Can disentangle light and mass
- Free-form modelling technique, less model bias

2 DATA

Content:

- Describe data set (why this data set, special features of galaxies (environment: y/n/unknown, elliptical/disk))

3 METHOD

Content:

- Describe GLASS
- Describe shape measure and link it with Coles, Read and Saha 2014

4 RESULTS

Content:

- Describe special features in reconstructed lenses
- Show the wedges money plot
- Discuss the results, especially:
 - 1. Dark matter halos seem quite round, stars not necessarily

* E-mail: claudio.bruderer@phys.ethz.ch

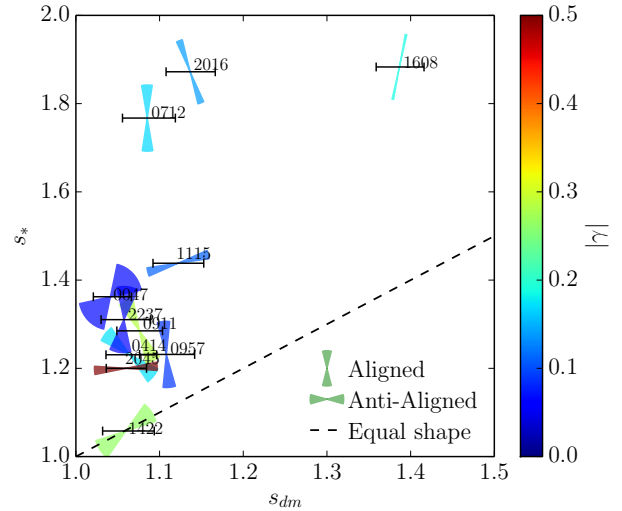


Figure 4.

- 2. Dark matter halos are consistently more elliptical than stars
- 3. Rather elliptical dark matter halos are more aligned, otherwise not really a clear trend
- 4. There does not seem to be a trend of lenses being misaligned because of shear

5 CONCLUSION

...

6 ACKNOWLEDGEMENTS

Acknowledge Dominik Leier, ...

JIR would like to acknowledge support from SNF grant PP00P2.128540/1.

..

Table 1. Table with lens properties

..

Table 2. Table with lens properties relevant for modelling (point masses, positions, time delays)

REFERENCES

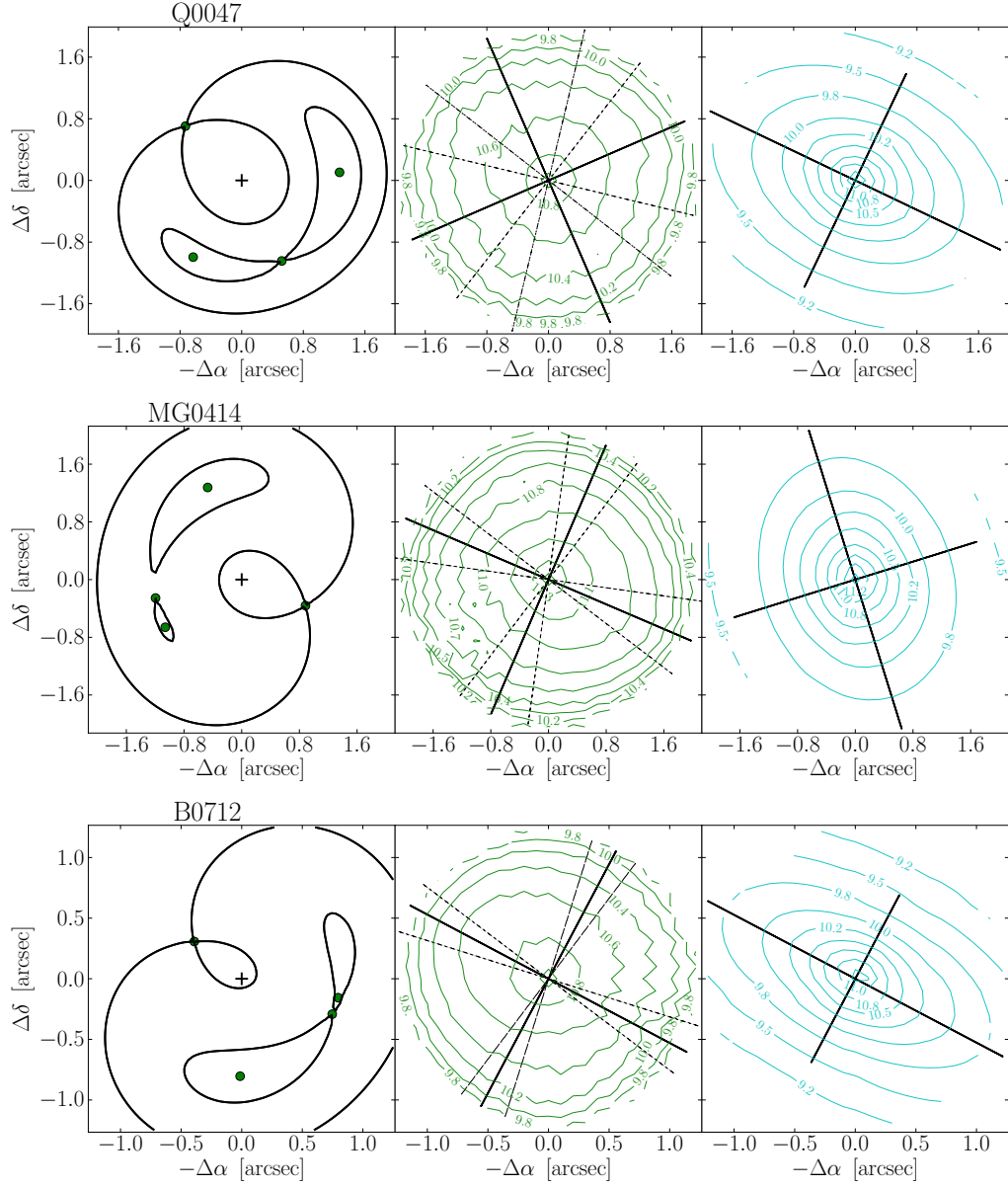


Figure 1.

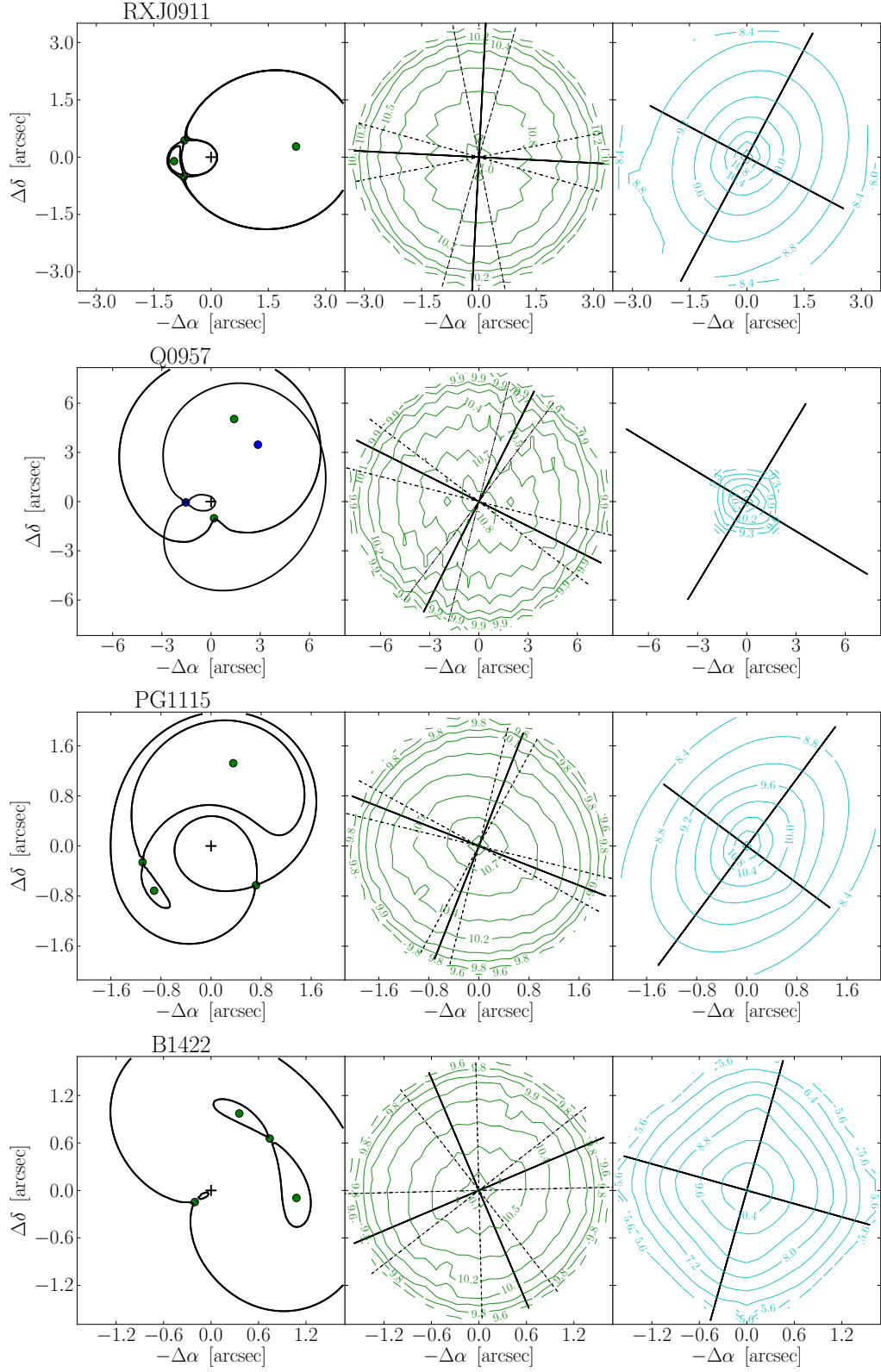


Figure 2.

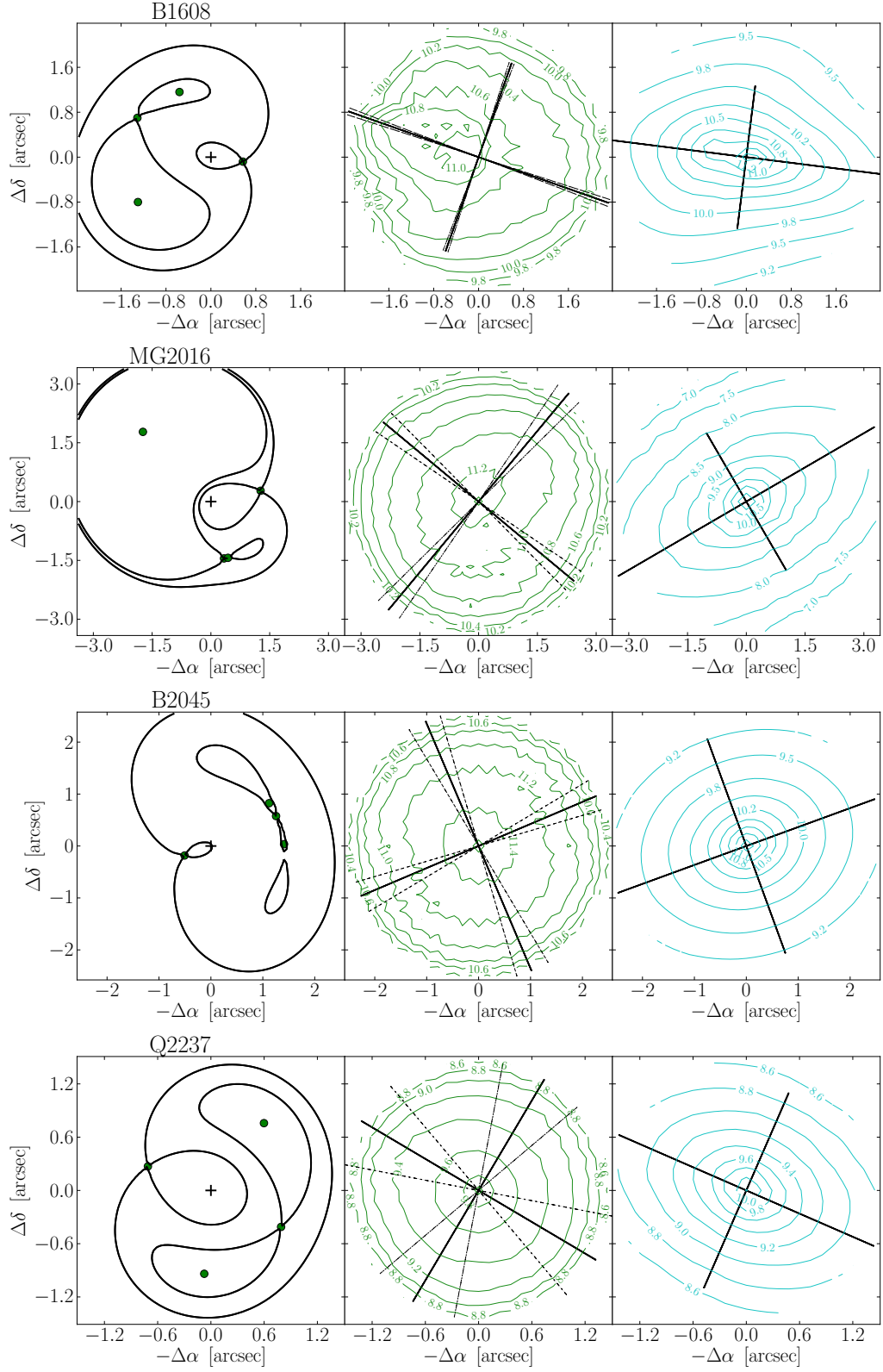


Figure 3.

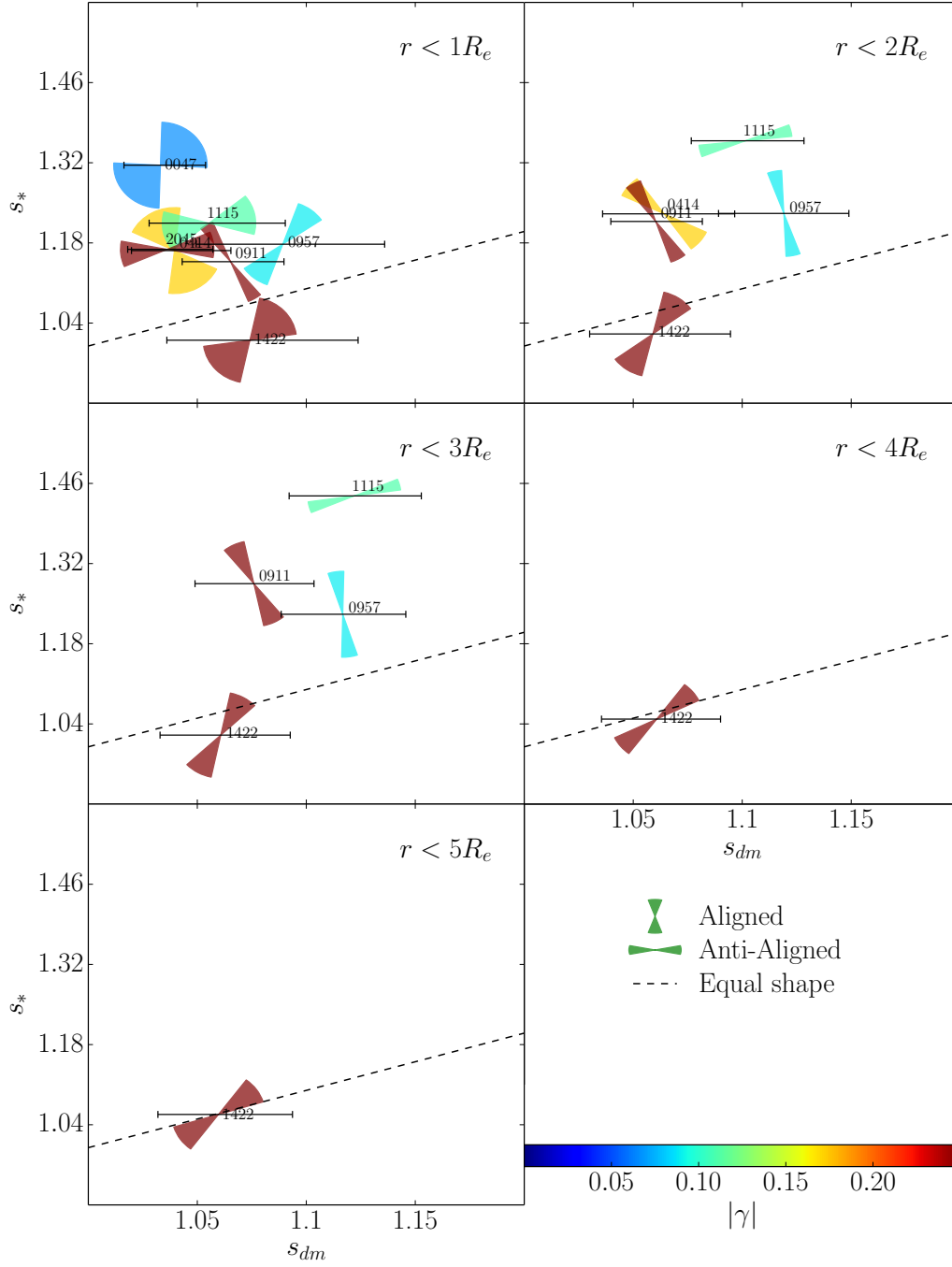


Figure 5.