Galaxy alignments from multiple angles

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Propositions accompanying the thesis

Galaxy alignments from multiple angles

1. The amplitude of the intrinsic alignment of galaxies depends on the specific galaxy sample and thus is not constant over the tomographic bins of a cosmic shear survey. (Chapter 2)
2. The intrinsic alignment of galaxies increases with galaxy luminosity but the relation flattens towards the faint-end, meaning that faint galaxies bring more alignment signal than previously predicted. (Chapter 3)
3. The complex dependence of intrinsic alignment on luminosity can be explained by the luminosity-halo mass relation: the halo mass is expected to be the driving quantity in setting the galaxy alignment of central galaxies. (Chapter 4)
4. Including weak lensing magnification in a clustering and lensing analysis improves the constraints on the cosmological parameters minimally but neglecting it biases the results significantly. (Chapter 5)
5. The anisotropic distribution of satellite galaxies within haloes complicates the mapping between the different intrinsic alignment terms at small scales.
6. Simple models are pushed to their limits as data become more and more precise.
7. The article format is obsolete and it struggles to keep up with the data and software-driven approach of modern science.
8. The inability of many scientists to handle a civil conversation with a less informed person is proof that our education is incomplete. A lot of work needs to be done on improving scientific communication.
9. Mathematics is a universal language, but only a few can speak it. Visualisation is a universal language and everyone speaks it.
10. We are given only one life. This is a scary thing, but better to be aware of it.

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