

ASTROPHYSICS AND SUPERCOMPUTING

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Are the Milky Way en valley galaxies ransition

Introduction

 The Milky Way is commonly employed as a template L* spiral galaxy.



However:

- Its global properties are poorly constrained.
- These are required for comparison with external galaxies.

 M31 good accompaniment - observational difficulties are lessened.

Results the positions of the MW & M31



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~15 - 40% of Milky Way like galaxies may be green or red...

All inclinations ~15 - <u>40% of Milky</u> Way like galaxies may be green or red..



Red spirals



5433 face-on disky spirals from galaxy zoo.

• At stellar masses similar to Milky Way ~ 15% are **red**.

Model galaxies - gaining confidence...

 Croton+ 2006 semianalytic model

Confirming positions Star formation rates

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Alternative evolution?...

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Conclusions

- The MW and M31 are likely green valley members.
- ~ 15 40% of Milky Way type galaxies may be green or red.

May represent class of galaxy with an alternative evolutionary path.

Thanks for your time...

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