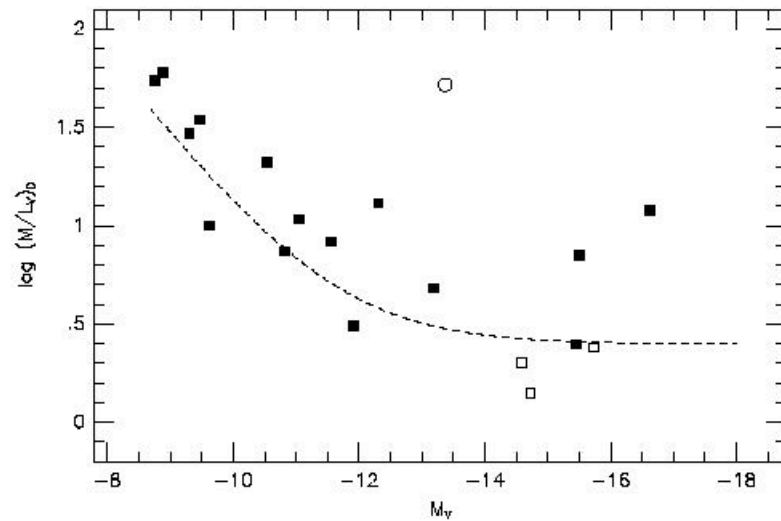


Luminosity Function with GASOLINE Dwarfs

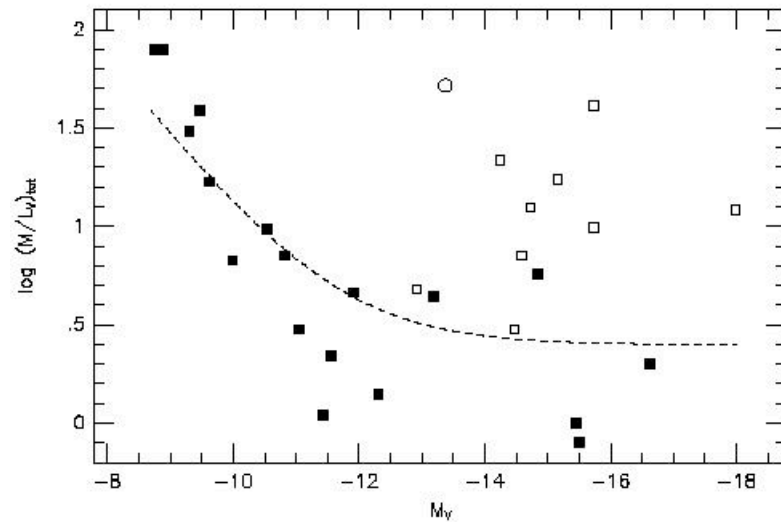
Mia S. Bovill

Mass to Light Ratios



Without feedback M/L is constant for all masses.

For low mass galaxies it is not!



Mateo (1998)

Simulations

All simulations used here were provided by Fabio Governato and Tom Quinn.

Box size = 25 Mpc with the 'g20' star formation prescription.

Two volumes

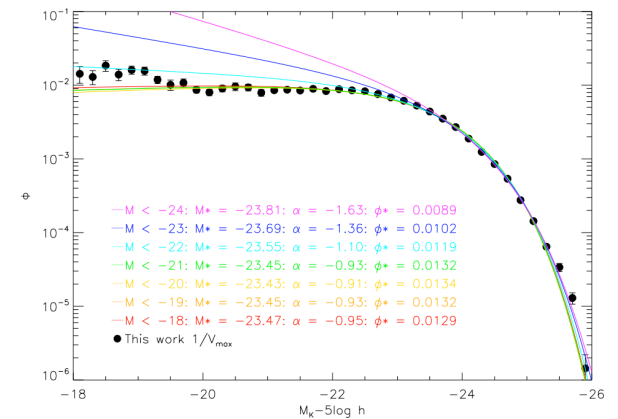
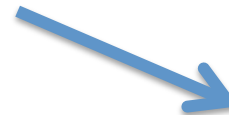
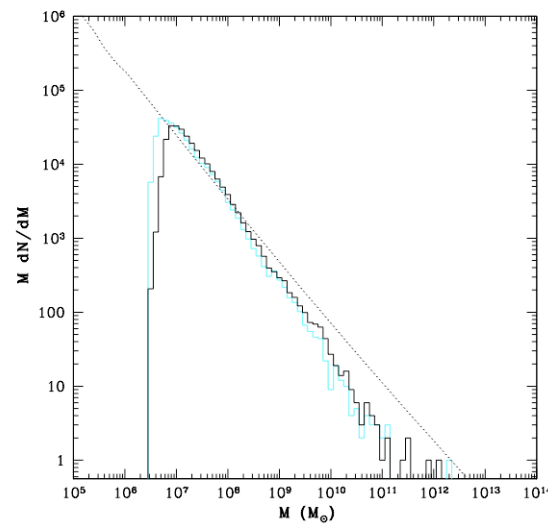
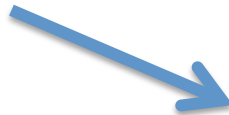
h516 – effective high resolution of 768^3

h258 – effective high resolution of 1536^3

For details see the .param file in /home/hipacc-29/DWARFS/h516.g20/ and Fabio's talk.

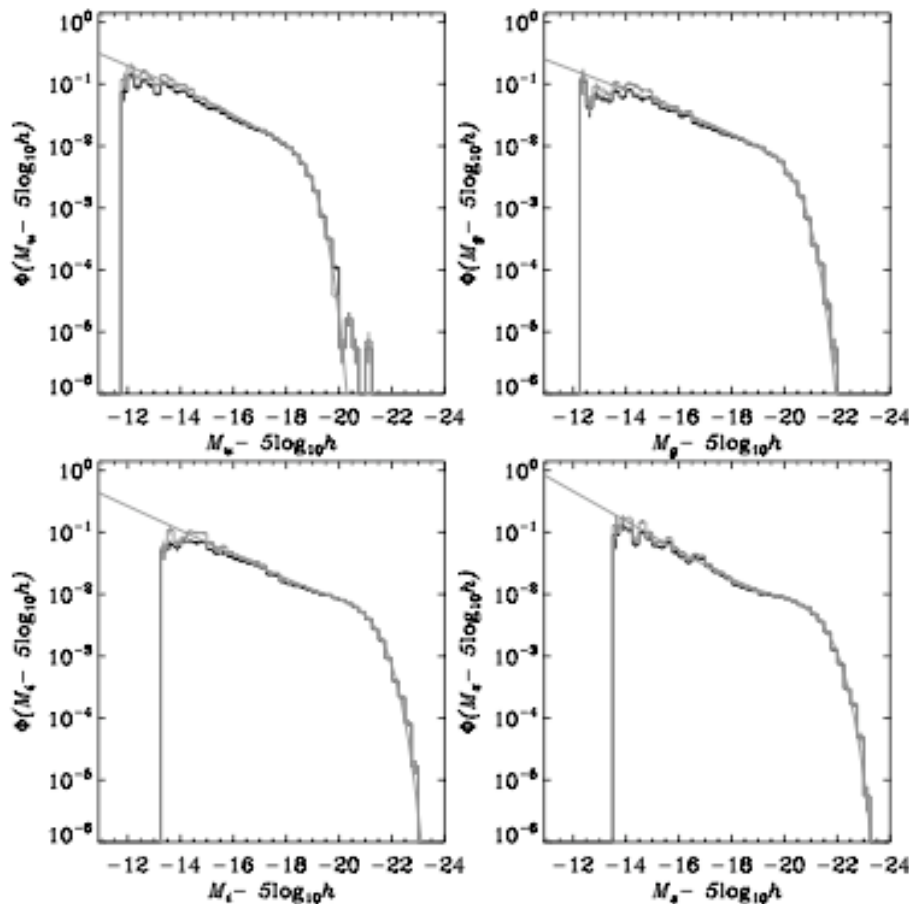
Outputs analyzed with AMIGA at $z=0$.

Making a Luminosity Function



Observational Sample

Blanton et al (2005) sample of SDSS galaxies at 10-150 Mpc/h in ugiz bands.

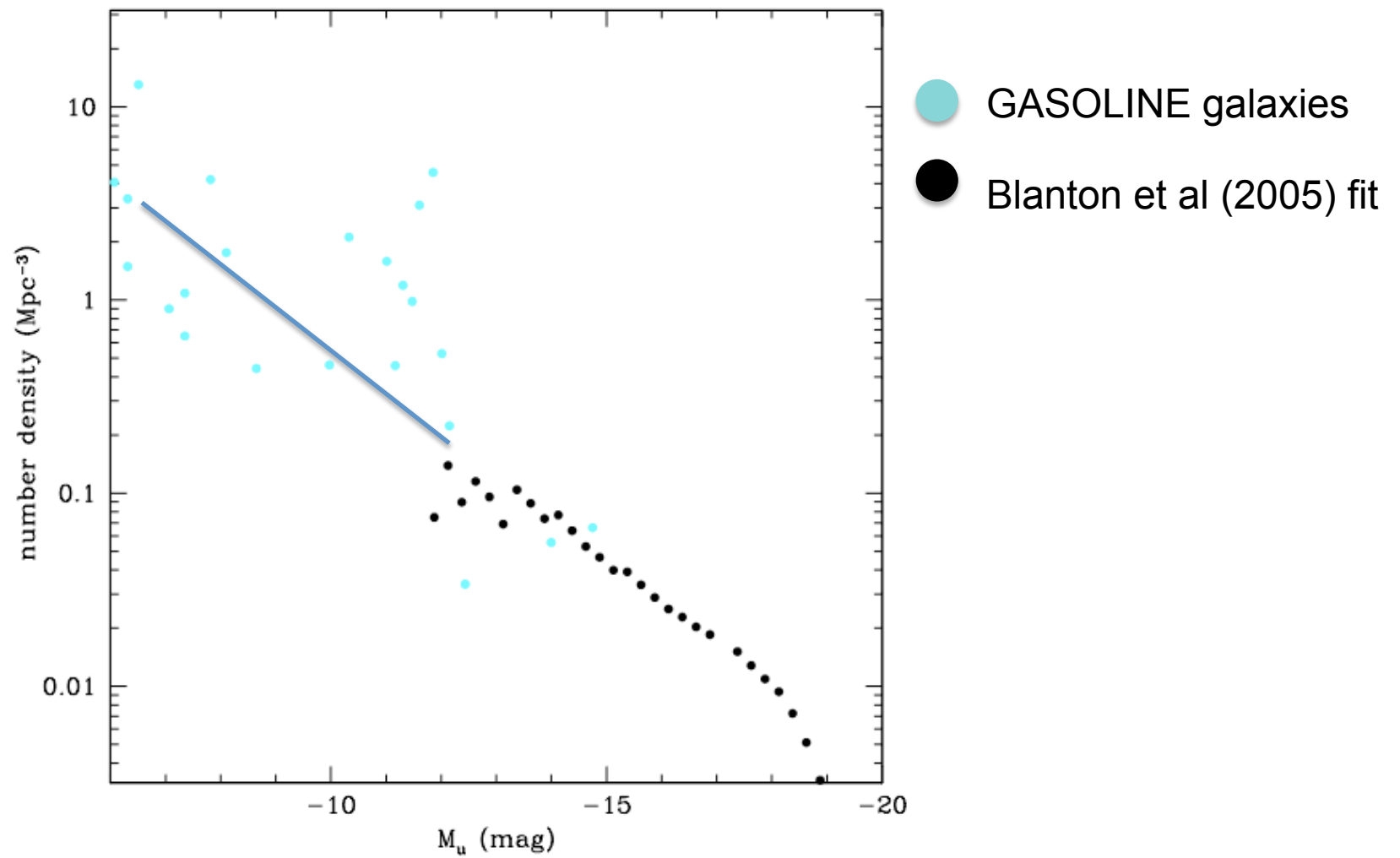


Observations corrected for completeness and fit to a double Schechter function.

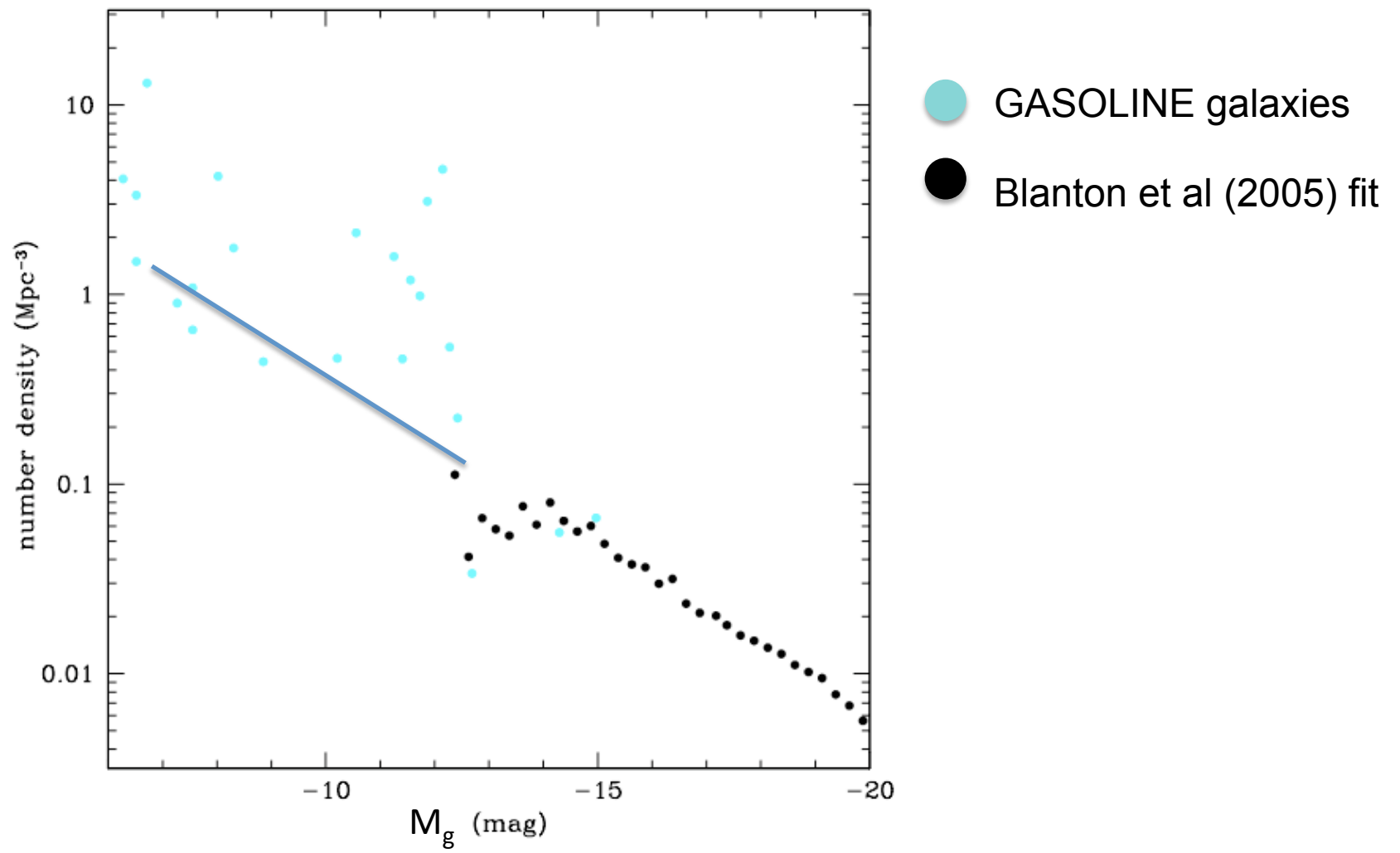
$$\Phi(L) dL = \frac{dL}{L_*} \exp\left(-\frac{L}{L_*}\right) \left[\phi_{*,1} \left(\frac{L}{L_*}\right)^{\alpha_1} + \phi_{*,2} \left(\frac{L}{L_*}\right)^{\alpha_2} \right].$$

dominates at low luminosity end

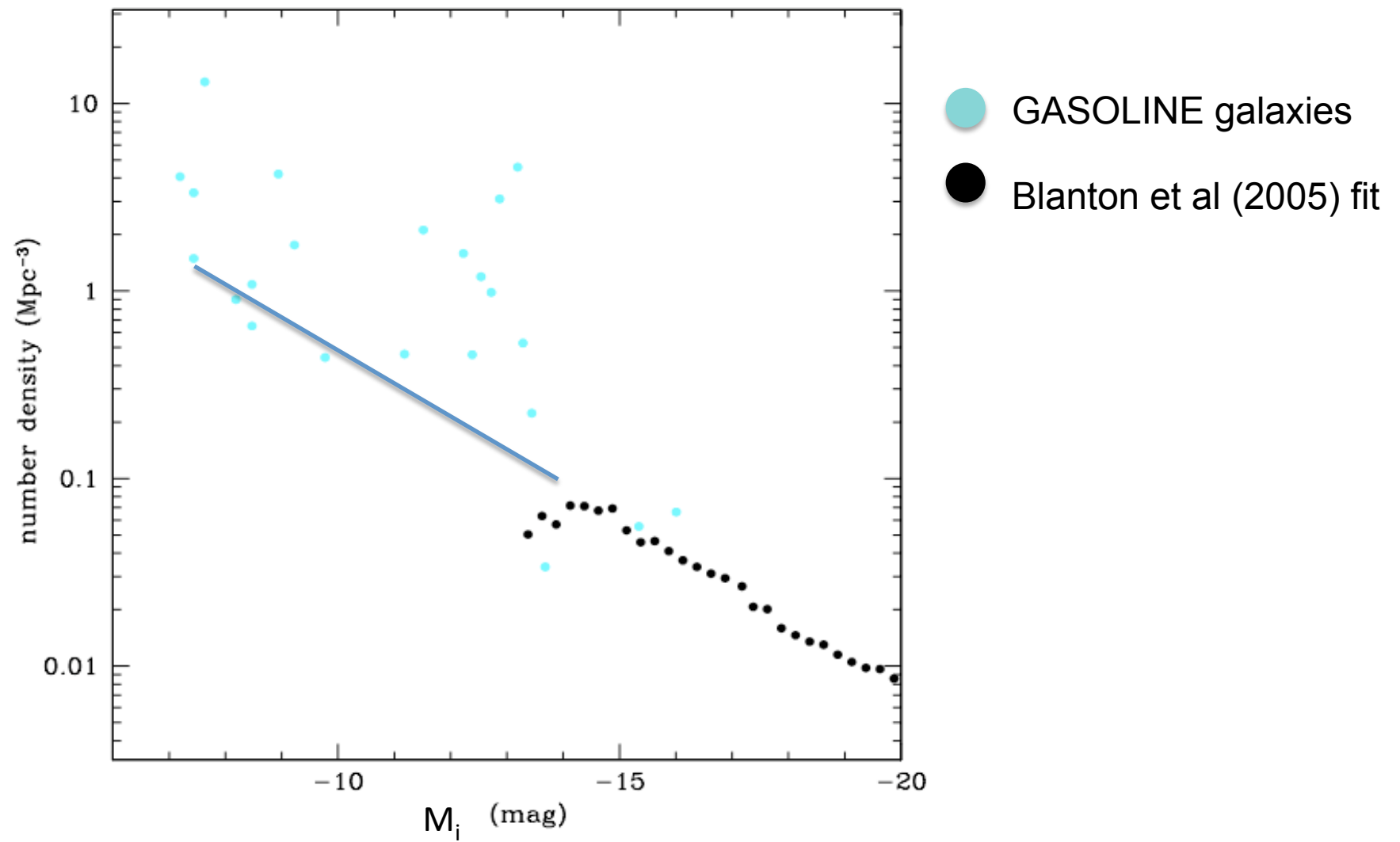
u-band



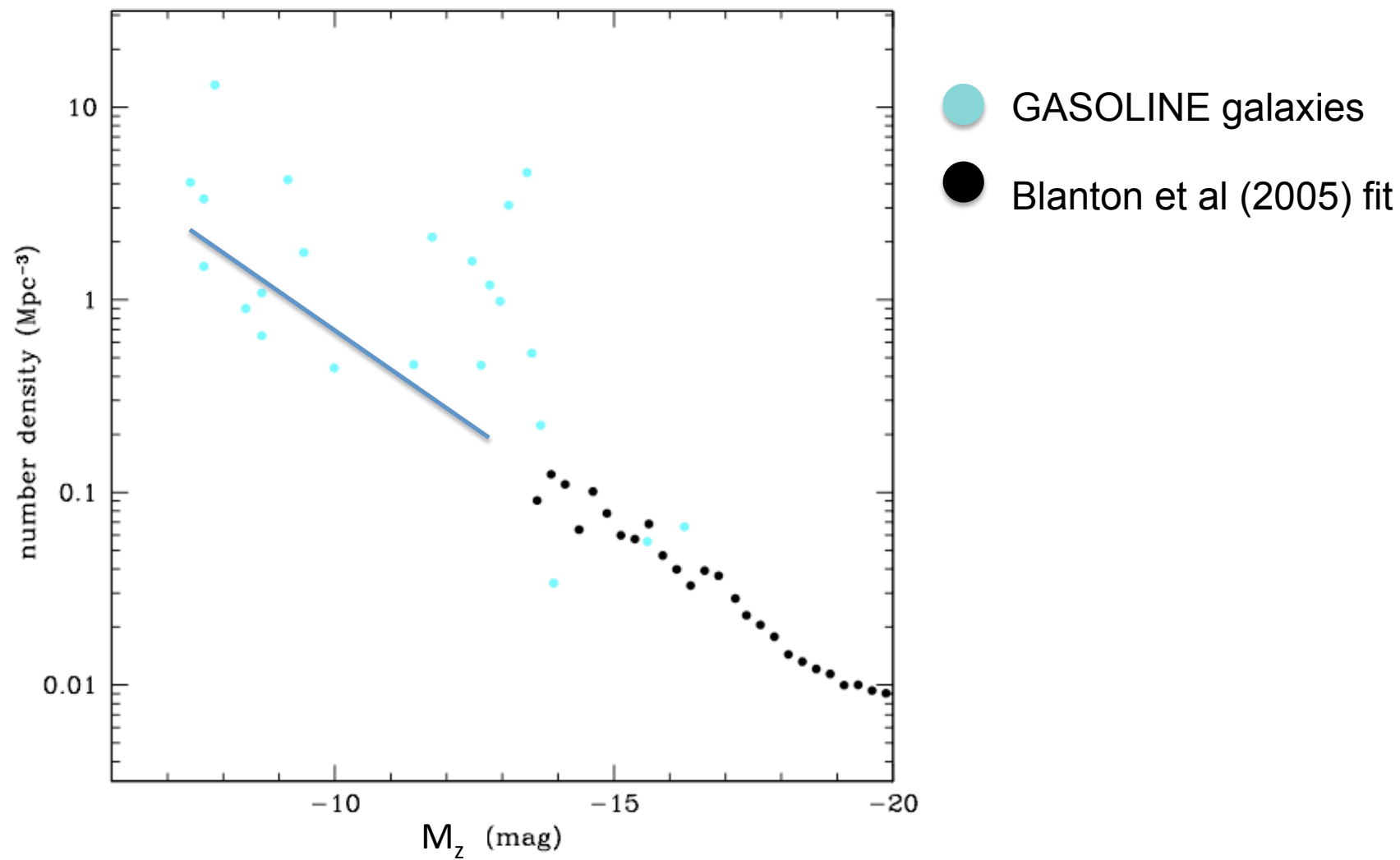
g-band



i-band



z-band



Concluding Remarks

Luminosity functions from GASOLINE galaxies are in rough agreement BUT seem to over produce lower luminosity dwarfs.

Dwarfs marked at satellites seem to have higher number densities.

Thanks to Tom Quinn and Brandon Bozek for their help!

