

Peak-mag Distribution for Type Ibc SNe

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Motivation

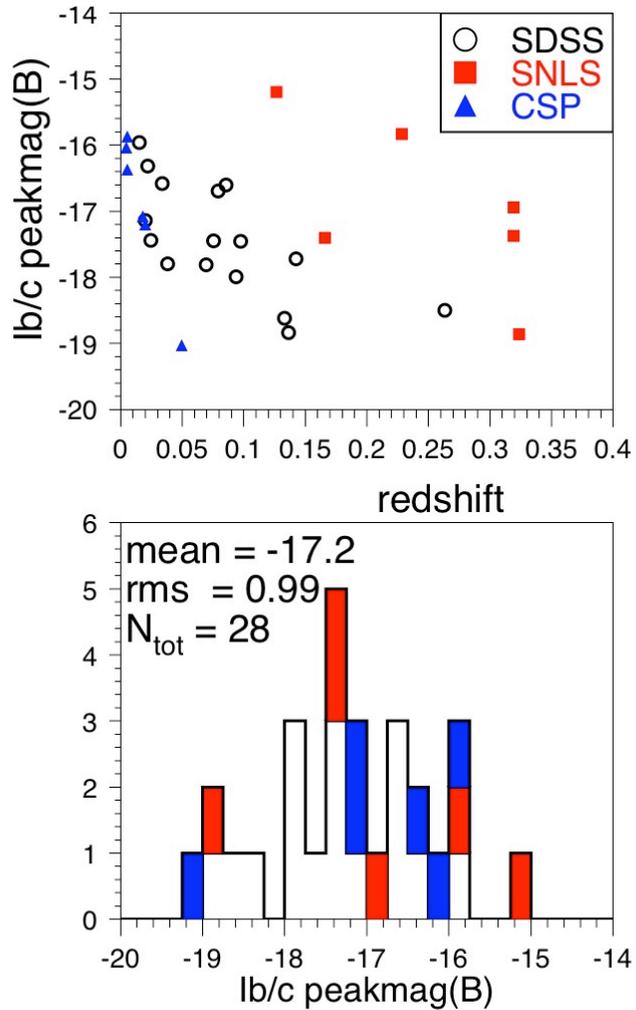
- ‘engineering’ for contamination in photometric SNIa samples ... perhaps food for theorists ?
- Ibc are core collapse SNe whose light curve is powered by Ni56; hence they are photometrically similar to Type Ia
(no H or He envelope to absorb Ni56)
- Previous Ibc mag distribution (Richardson 2006) is not corrected for very strong Malmquist bias.

Ibc Sample

- “SN Photometric Classifier Challenge” used 16 Ibc SNe from CSP, SDSS, SNLS.
- 12 more Ibc (28 total) used for peakmag analysis since sampling requirement is less stringent than for the challenge.

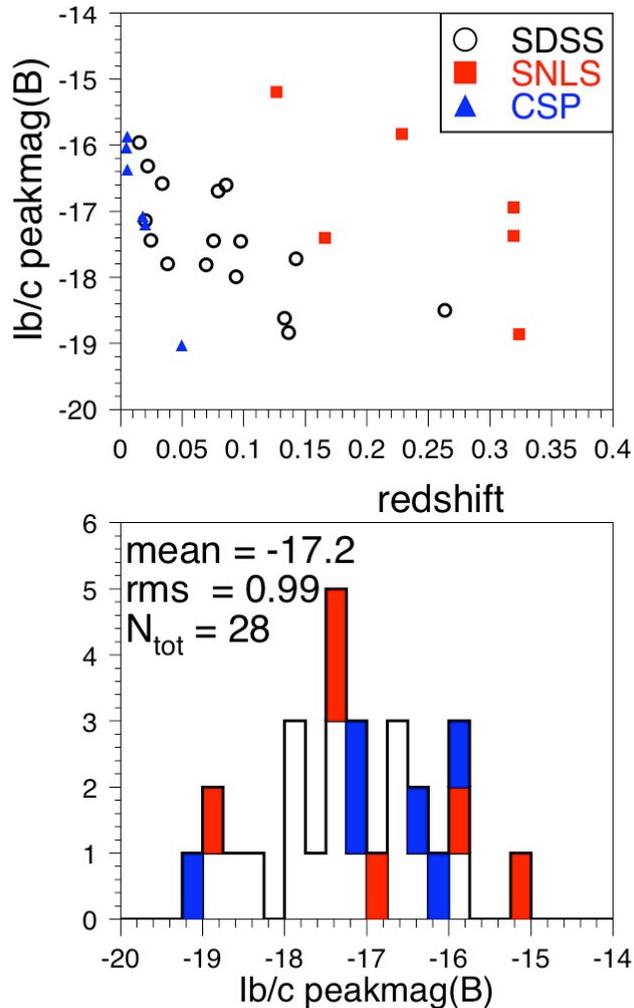
Ibc Sample

Uncorrected

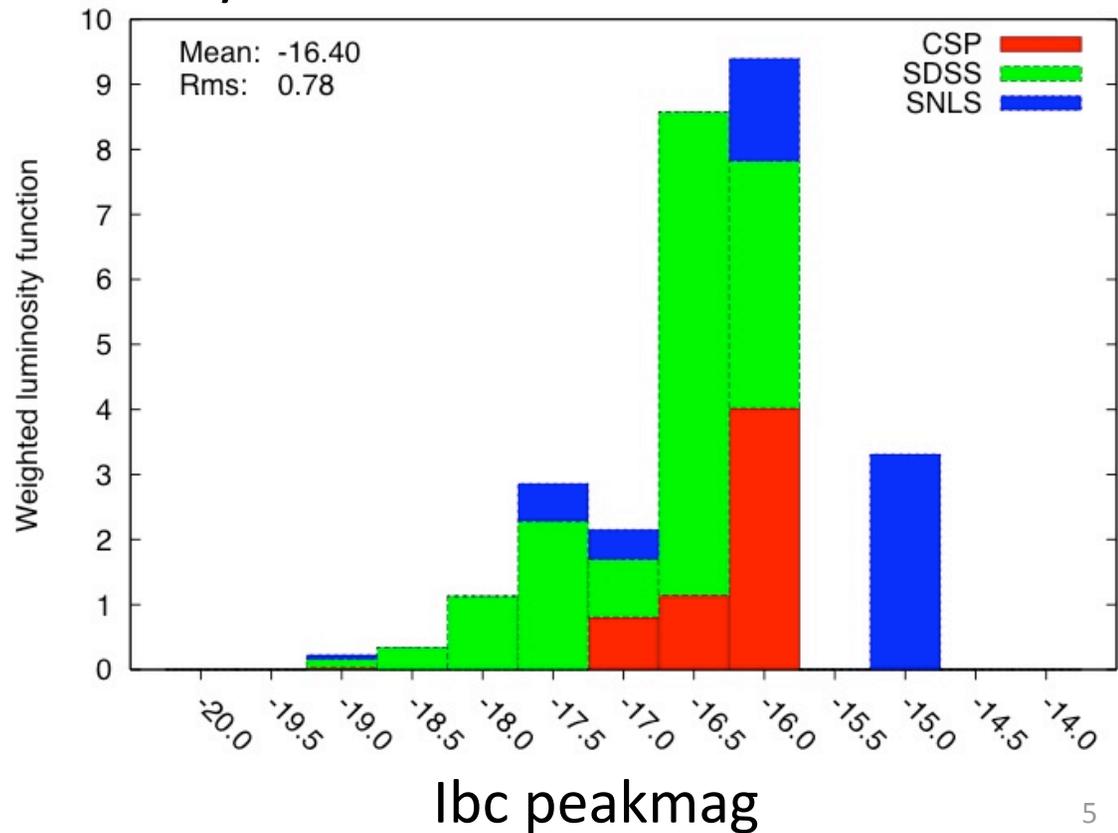


Ibc Sample

Uncorrected

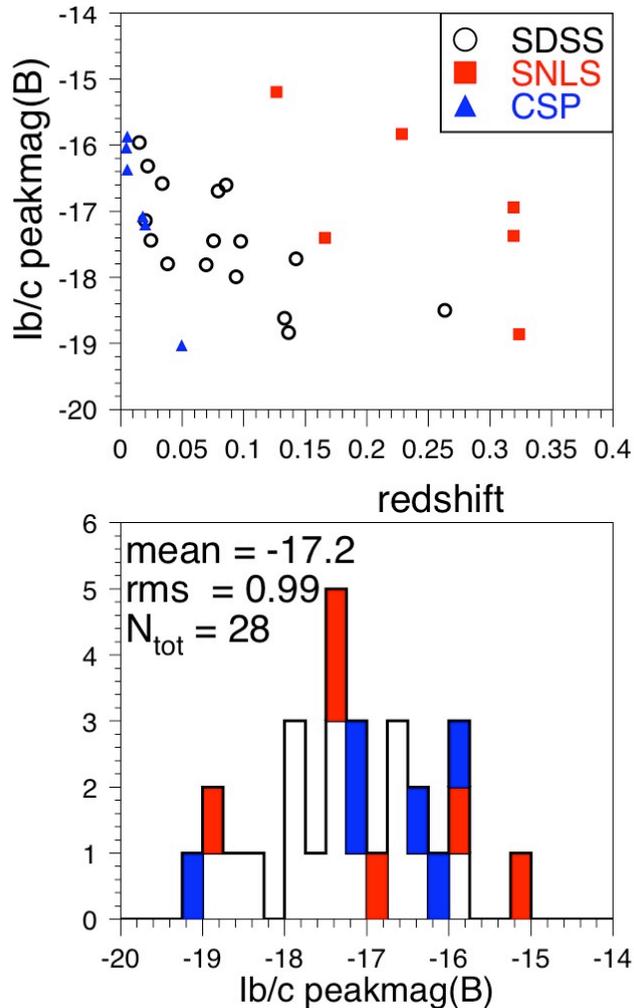


1/Vmax corrected (preliminary):
by UofC student Benedikt Diemer

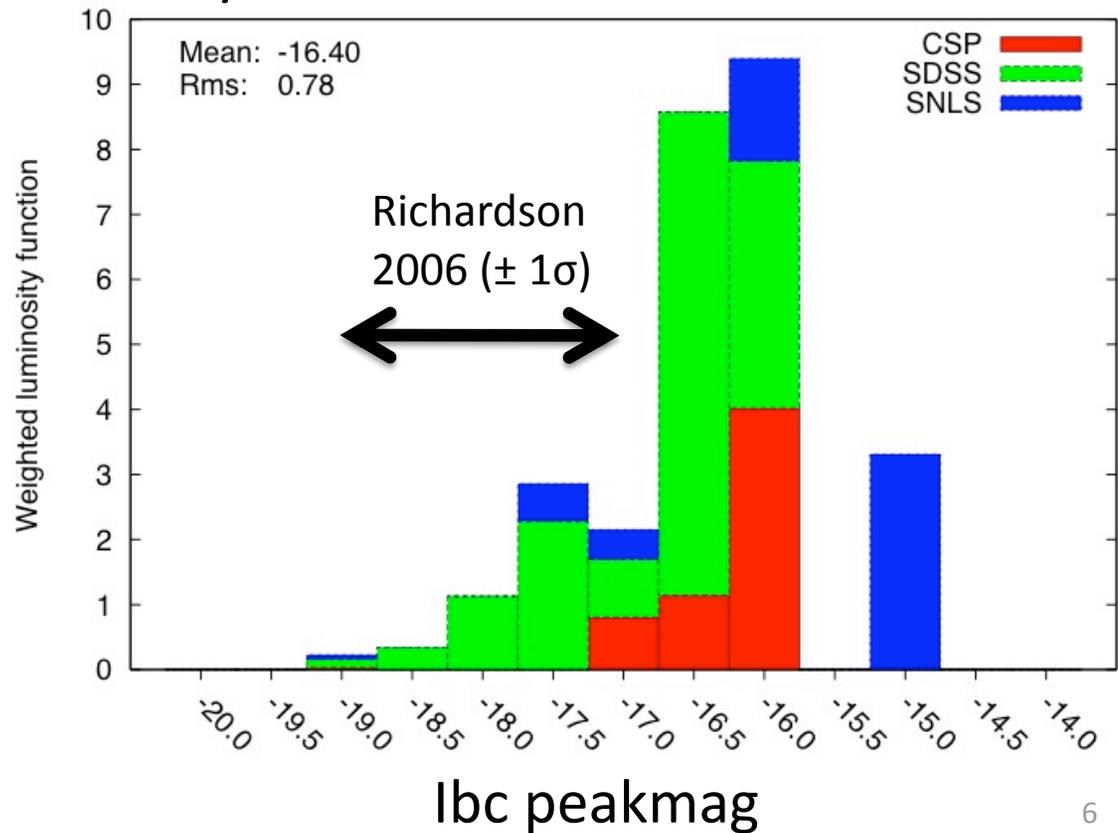


Ibc Sample

Uncorrected



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Summary

- Short paper in preparation ... will likely quote rate above some rest-frame absolute mag.
- Distribution seems to be falling exponential instead of Gaussian (as in Richardson).
- Not clear what the lbc rate estimates correspond to ?