

Transient Sources and Potential New Discoveries with ODI

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Collaborators

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M. Ganeshalingam, A. Filippenko, W. Li, D. Poznanski, ...

Yale ODI Meeting
3 October 2009

Little Telescope with a Novel Idea

Texas Supernova Search

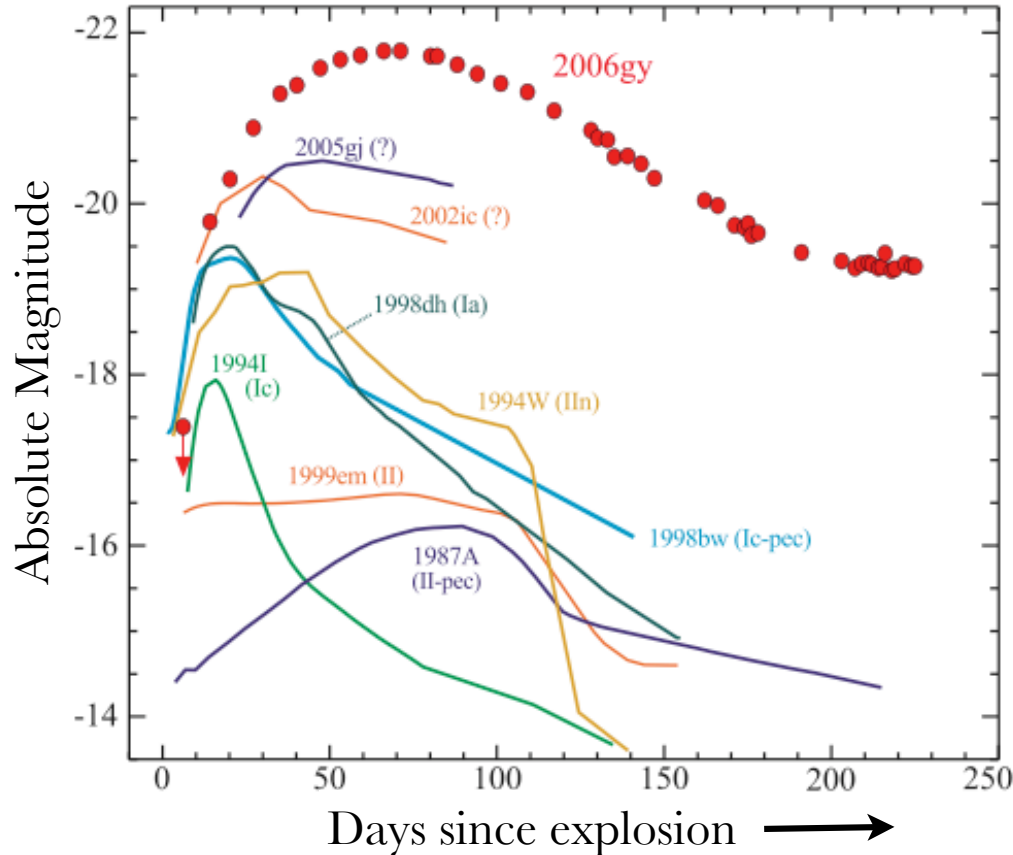
- ROTSE III 0.45 m telescope
- large FOV
- did not target specific galaxies



<http://www.rotse.net/>

Discovery of Very Luminous SNe

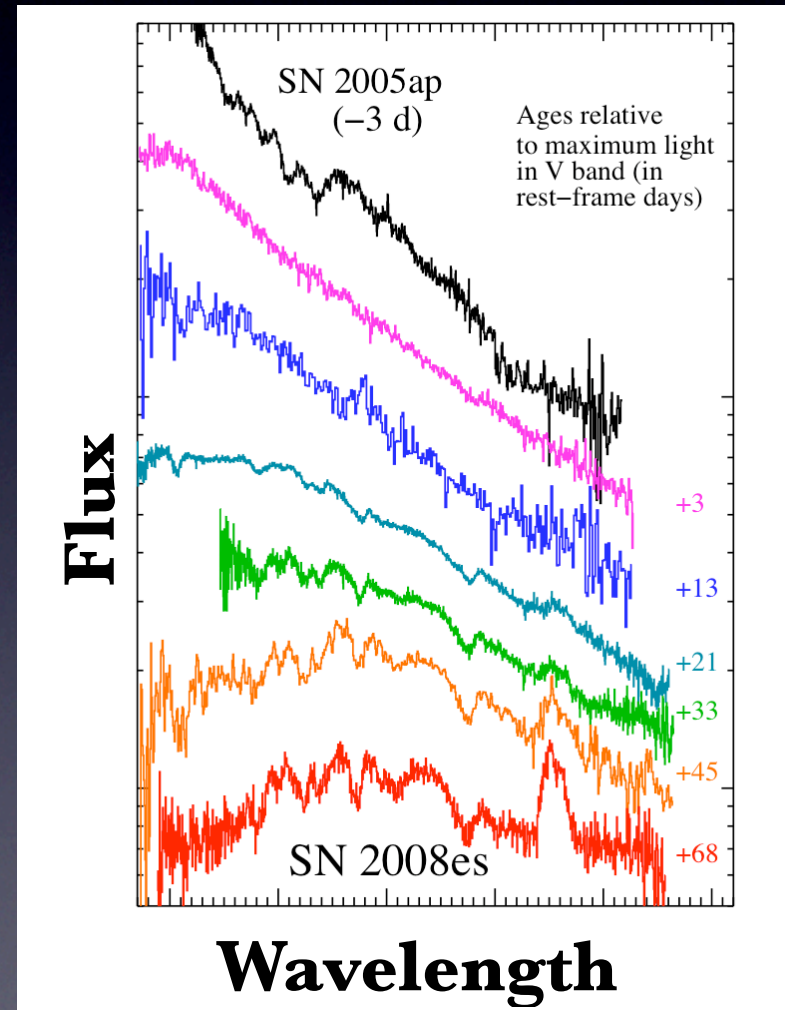
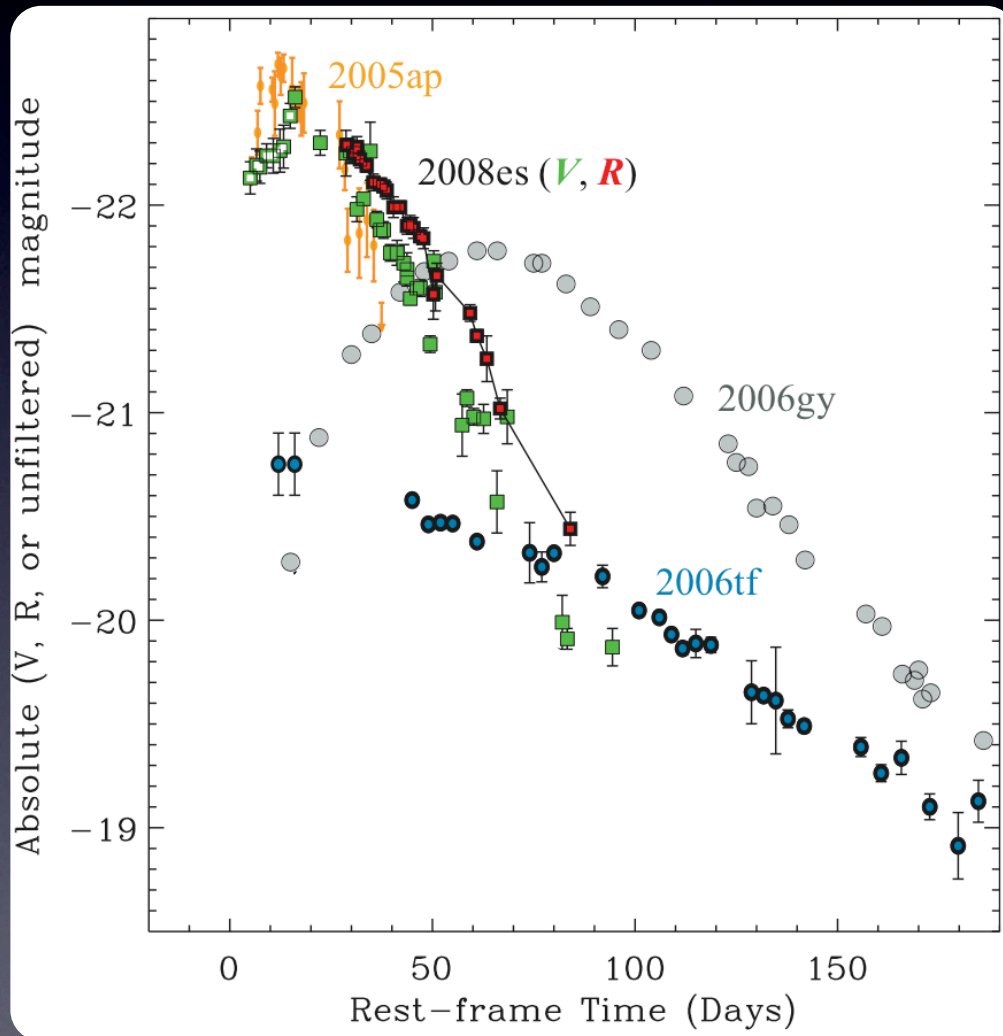
TSS - 5 most luminous SNe ever discovered



- SN 2005ap
- **SN 2006gy**
- SN 2006tf
- SN 2008am
- SN 2008es

Discovery of Very Luminous SNe

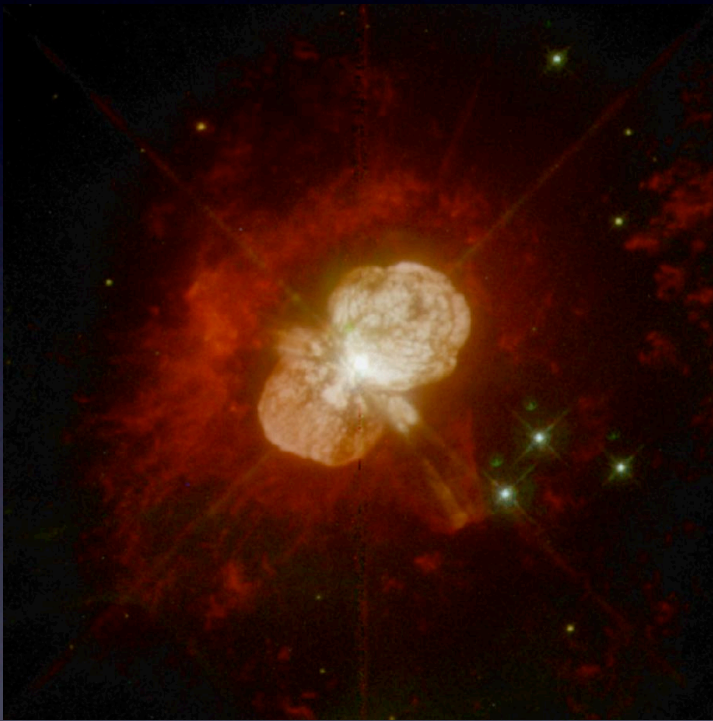
Diversity of Observed Properties



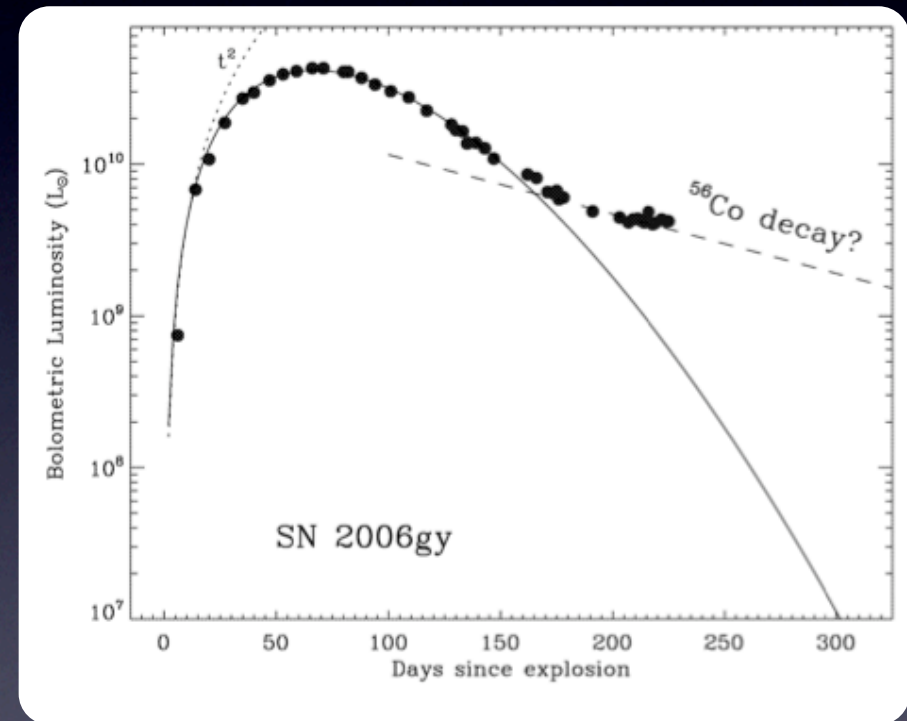
Miller et al. 2009

Discovery of Very Luminous SNe

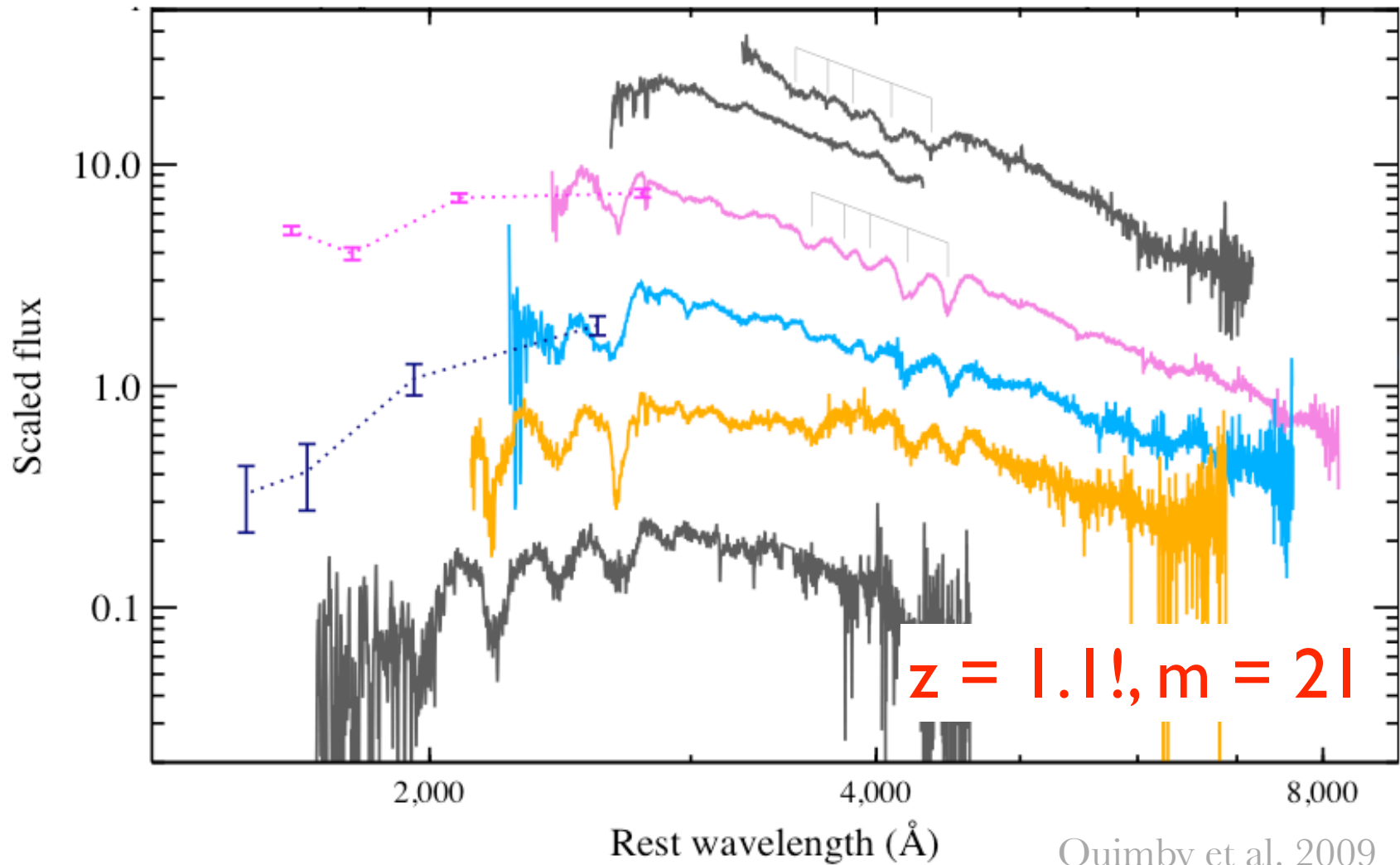
Luminous Blue Variables



VLSNe



Discovery of Very Luminous SNe

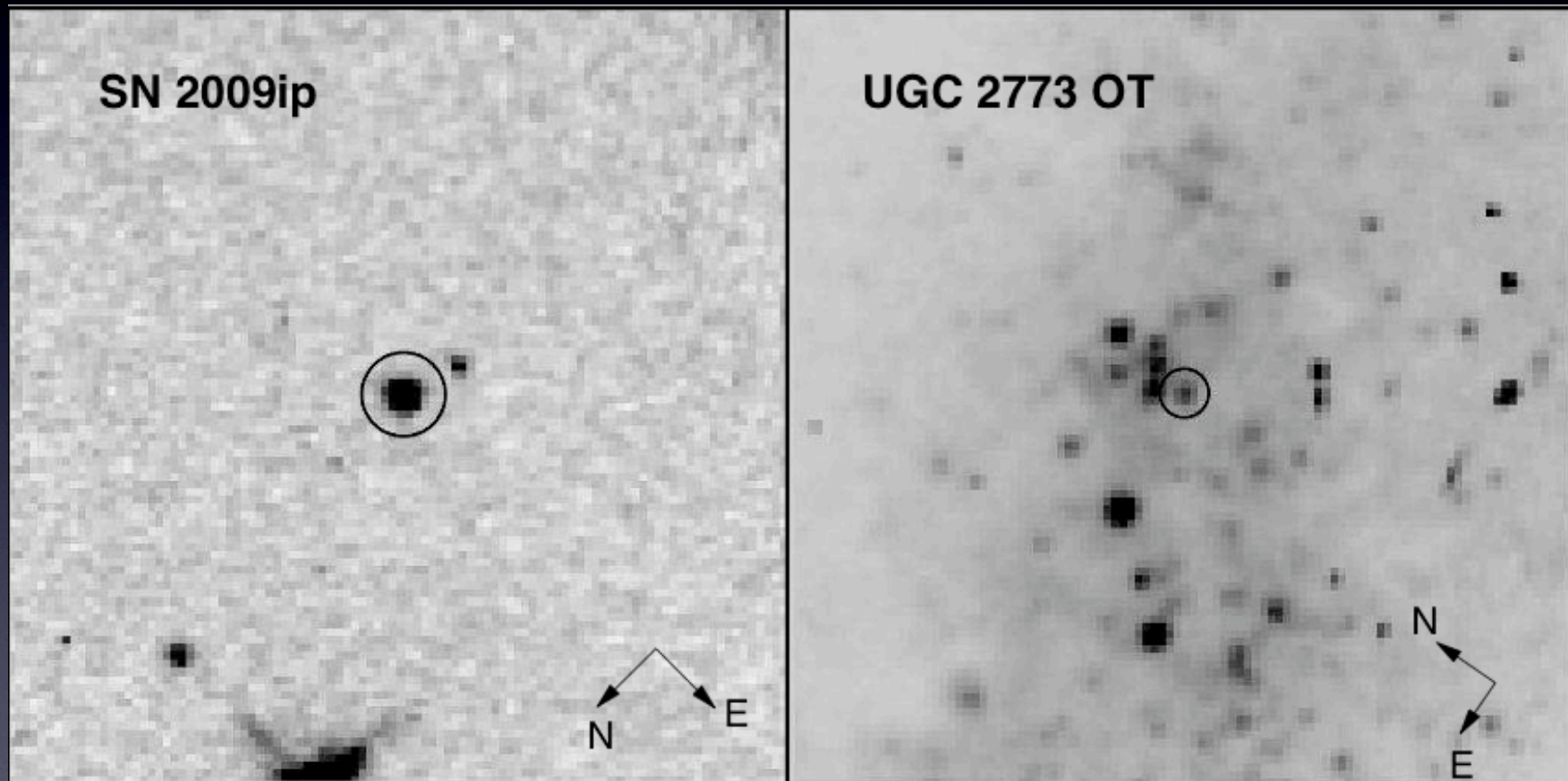


Quimby et al. 2009

Smith & McCray 2007, Smith et al. 2008, Quimby et al. 2007, Miller et al. 2008

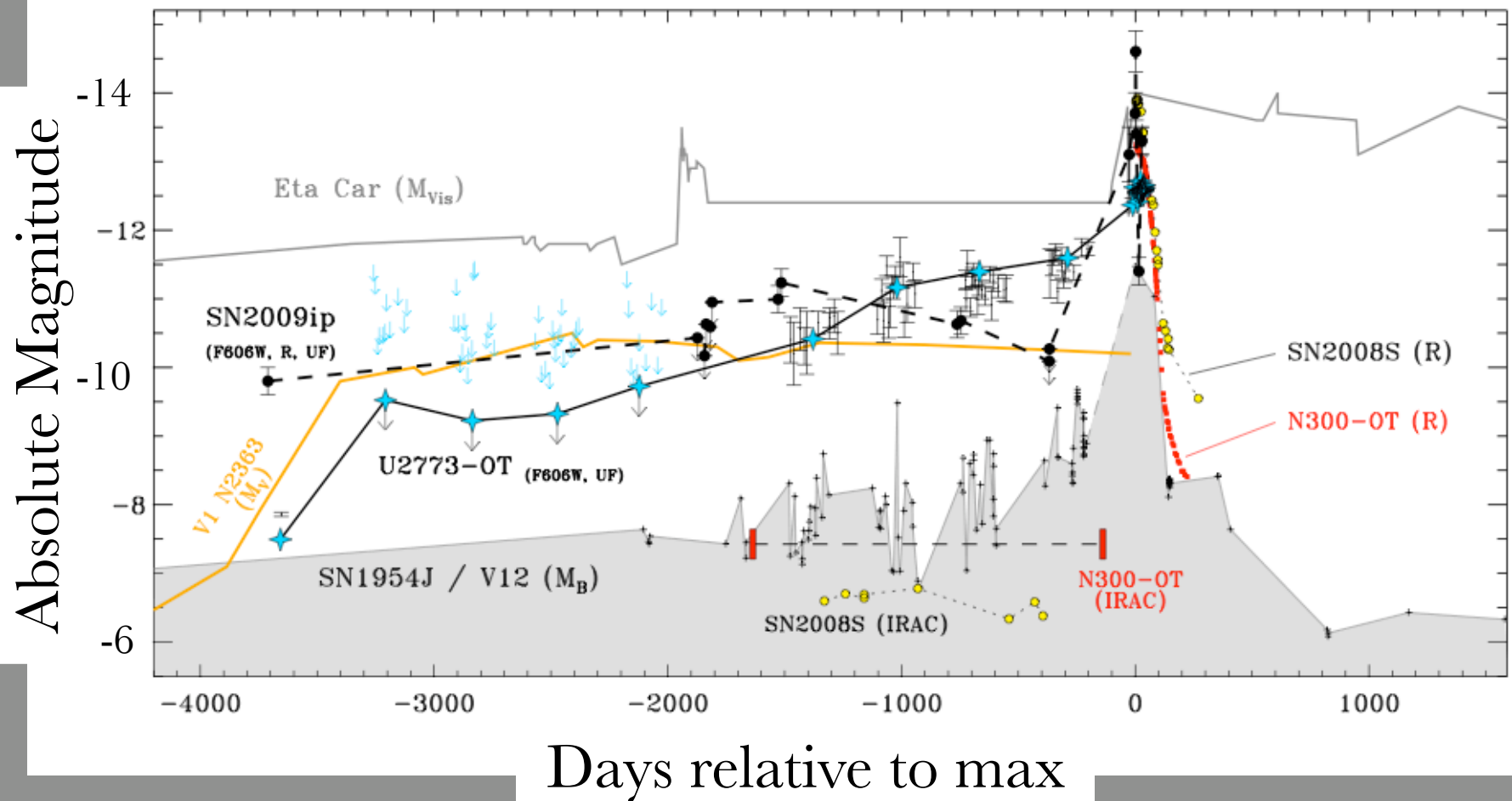
Historical Data as a Discovery Engine

Two recent “SN” with progenitor IDs



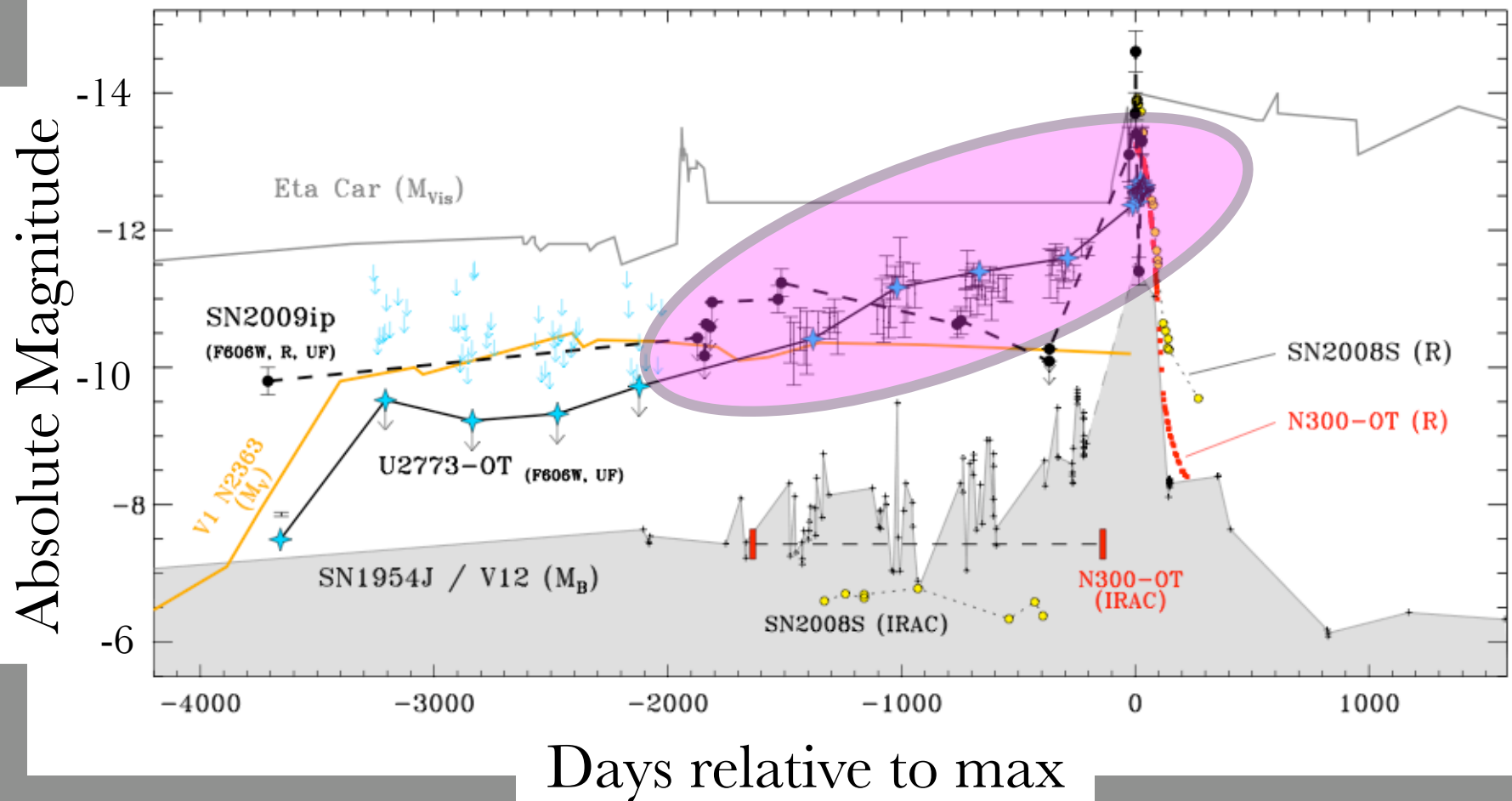
Historical Data as a Discovery Engine

Host galaxy monitoring -
reveals astonishing discovery



Historical Data as a Discovery Engine

Host galaxy monitoring -
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Lessons for ODI

- Appropriate cadence for deep surveys = extra science
- Novel idea is all you need for transient discoveries
- Historical data sets can provide big discoveries

Lessons for ODI

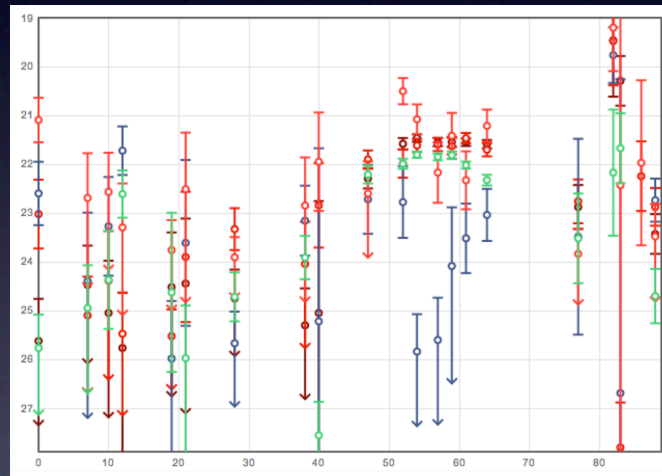
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Transients Classification Pipeline

PI - J. Bloom, D. Starr, J. Brewer, C. Klein, N. Butler, et al.



TCP says ...