

Astrophysics Seminar

Monday, November 7, 2016



Supernovae and their Progenitor Systems (or lack thereof)



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Despite the robust empirical supernova (SN) classification scheme in place, the underlying progenitor systems remain ambiguous for many subclasses. The most straightforward constraint relies on a detection of the progenitor star in high-resolution pre-explosion images. Such a direct identification is typically not feasible, however, even with modern telescopes such as Hubble. Instead, astronomers are forced to rely on supernova "forensics," where the surrounding circumstellar medium can yield direct clues about the mass loss from the star in the years leading up to the SN explosion.

I will begin the talk with a review of the limited number of direct progenitor detections already made, followed by a discussion of the indirect methods for constraining supernova progenitors that have never been seen. Although progenitor discussions have historically considered mostly single star systems, I will focus a significant portion of the discussion on the impact binary stars may have on our understanding of these results.

3:30pm in CAS 502. *Refreshments served at 3:15pm in CAS 500.*

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Next Week
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