

Abstract Submitted
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Big and Bright: Two Discoveries from the Texas Supernova Search ROBERT QUIMBY, Caltech — Supernovae, the cosmic fireworks accompanying the catastrophic ends of some stars, have been the highly scrutinized subjects of multiple research consortia for decades. It is therefore initially surprising to learn that the most luminous and, in some sense, most obvious supernovae have only recently been found—and they were done so by one of the smallest telescopes competing in the field. In this talk I will review the Texas Supernova Search and our two most famous discoveries: SNe 2006gy and 2005ap. I will present the remarkable observations and a few of the theoretical models formulated to offer explanation. SN 2006gy is most likely an explosion from an exceptionally massive star and it is the first observed supernova for which a pair instability trigger must be considered. 2005ap, the most luminous supernova yet identified, may be a distinctly different phenomena, one perhaps related to gamma-ray bursts. I discuss possible reasons as to why such supernovae have yet to be found by other surveys.

Robert Quimby
Caltech

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