

Type Ia Supernova Remnant in the Large Magellanic Cloud

You-Hua Chu ^{1,2}, Chuan-Jui Li ^{1,3}, Robert Gruendl ², et al.

1. Institute of Astronomy and Astrophysics, Academia Sinica, P.O. Box 23-141, Taipei 10617, Taiwan

2. Department of Astronomy, University of Illinois, 1002 West Green Street, Urbana, Illinois, USA

3. Graduate Institute of Astrophysics, National Taiwan University, Taipei 10617, Taiwan

Type Ia supernova remnants (SNRs) in the Large Magellanic Cloud (LMC) have been identified by Balmer-dominated optical spectra or Fe-enhanced ejecta abundance implied by X-ray spectra. ~10 Type Ia SNRs in the LMC are known.

- CTIO 4m and HST H α images of 9 Type Ia SNRs.
- The 5 smallest SNRs show Balmer-dominated shells.
- N103B and 0548-70.4 show nebular knots in SNR interiors, suggesting dense circumstellar material and likely single-degenerate progenitors.
- The 4 largest Type Ia SNRs show only shocked interstellar shells.
- DEM L316 contains a Type Ia SNR and a core-collapse SNR. Implication on their progenitors?
- 0454-67.2 is outside a superbubble around an OB association. A prompt Type Ia?

