# Exploring the Diversity of Type Iax Supernovae: Insights from SN 2022eyw and Ongoing Studies

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Type Iax supernovae (SNe Iax; or 02cx-like SNe Ia) form a peculiar subclass of thermonuclear white dwarf explosions, occurring at about 15-30% of the rate of normal SNe Ia. Unlike the relatively homogeneous population of normal SNe Ia, SNe Iax exhibit striking diversity in luminosity and spectral evolution, ranging from events comparable to normal SNe Ia at the bright end to extremely faint explosions such as SN 2008ha. Detailed observations and modeling of these objects provide valuable insights into their progenitor systems, explosion mechanisms, and the possible survival of bound remnants.

We present a detailed study of SN 2022eyw, based on extensive photometric and spectroscopic follow-up. Our analysis shows that SN 2022eyw belongs to the brighter subclass of SNe Iax, with properties consistent with incomplete burning and moderate ejecta velocities. We also highlight ongoing studies of SN 2025qe, an intermediate-luminosity Iax. Together, these objects probe the wide luminosity and ejecta parameter space of the subclass, enabling comparative studies of explosion energies, ejecta composition, and nucleosynthetic yields.

Exploring this diversity is crucial for constraining explosion models and progenitor systems, and also for evaluating whether SNe Iax may serve as alternative distance indicators.