

Celebrating 20 years of Swift Discoveries



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Using Swift's Ultraviolet Lens: Bumps, Colors, and the Weirdest, Most Perplexing, Non-Standardizable Type Ia Supernovae

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Over the past decade, the proliferation of sky surveys has enabled the discovery of many Type Ia Supernovae (SNe Ia) promptly after they explode, unveiling new, peculiar phenomena in their first days. In this talk, I will highlight recent discoveries relating to early-time flux excesses, which *Swift* showed are especially prominent in the UV, discovered for a growing number of SNe Ia. First, I will show that all SNe Ia with non-monotonic rising light curve bumps are either 2003fg-like or 2002es-like, two non-standardizable, peculiar SN Ia subtypes. Second, follow-up *Swift* photometry reveals that these two subtypes also have distinct UV colors. This allows them to be distinguished from other SNe Ia subtypes, potentially indicating a common origin and other shared characteristics for these peculiar objects. Finally, I will conclude by sharing ongoing work to identify, classify, and

Swiftly follow up on SNe Ia within a day of the explosion at the University of Hawaii's Institute for Astronomy.

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