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## Supernova Cosmology in the 2020s

*Thursday, 8 July 2021 16:30 (20 minutes)*

Type Ia supernovae (SNe Ia) are excellent cosmological distance indicators. With them, one can precisely measure the expansion history of the Universe and constrain cosmological parameters such as the current expansion rate,  $H_0$ , and the dark energy equation-of-state parameter,  $w$ . I will present new results from four current and upcoming surveys. The Swope Supernova Survey is a large, high-cadence, six-band Southern survey that will be extremely useful for measuring  $H_0$  and understanding the physics of SNe Ia. The Foundation Supernova Survey is currently the largest and best-calibrated low-redshift SN Ia sample. The recently started Young Supernova Experiment will obtain high-quality light curves for  $\sim 10^4$  SNe Ia, anchoring the Hubble diagram, allowing for measurements of  $\sigma_8$ , and being a training set for Vera C. Rubin Observatory data. The Roman Space Telescope, to be launched in the middle of this decade, will discover  $> 10^4$  SNe Ia to  $z \sim 3$ . I will discuss new analysis techniques, new tests of systematic biases, new cosmological results, and predictions for the state of SN cosmology in 2030.

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