

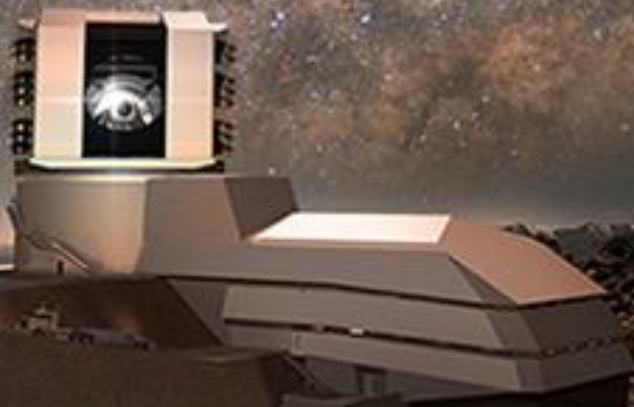
A New Telescope and the Future of Supernova Research

Haley Bowden

UCSB CCS Physics

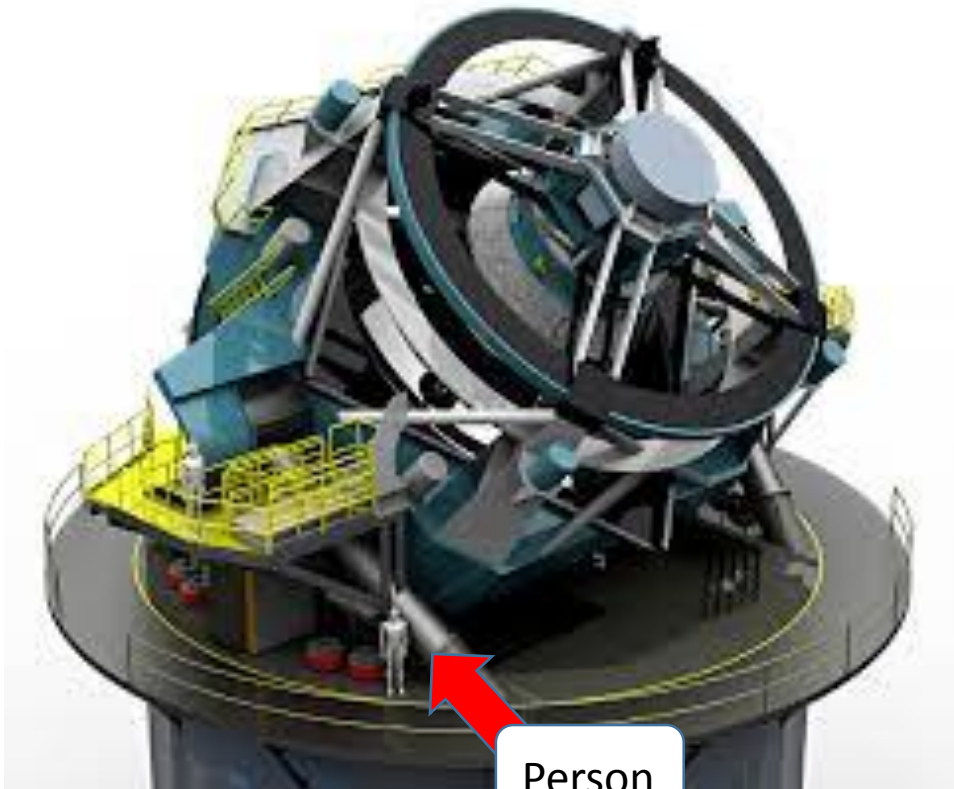
Mentor: Andy Howell

LCO



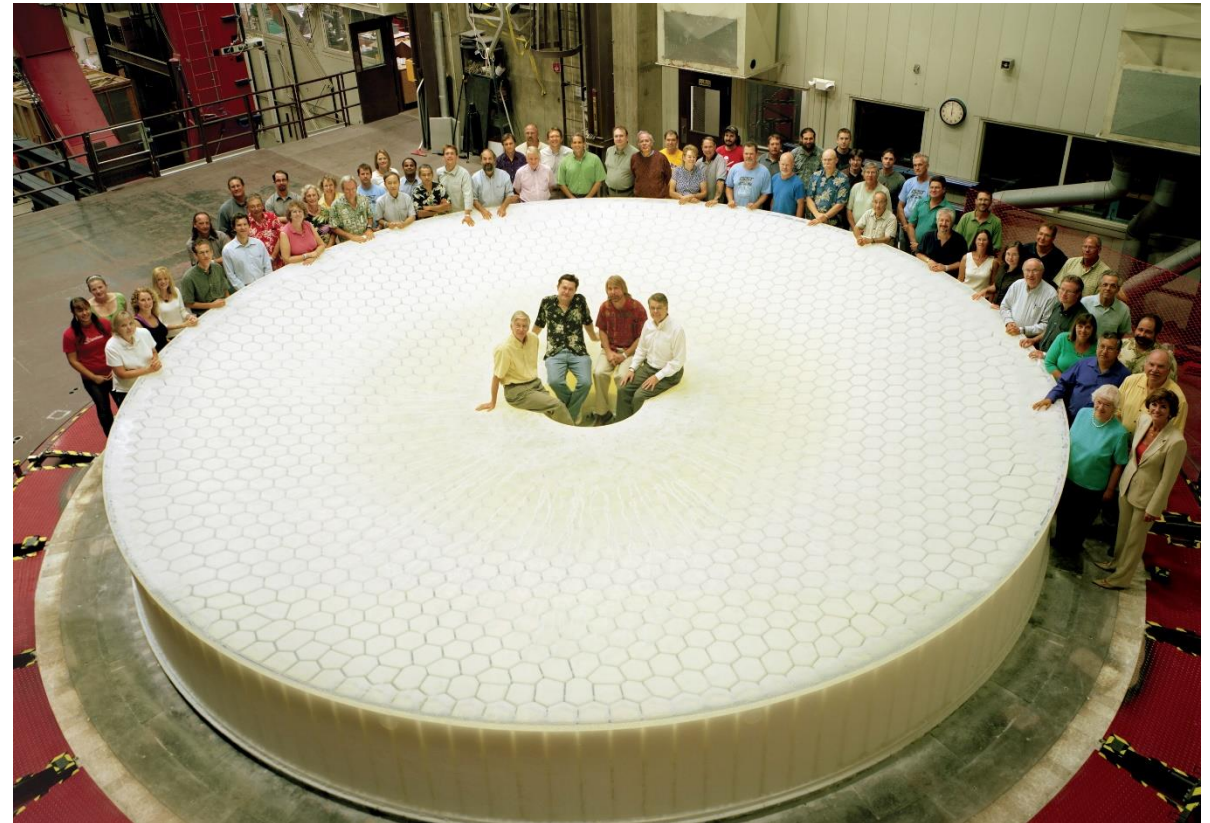
The Large Synoptic Survey Telescope (LSST): Observing Changes in Faint Objects

Model of LSST

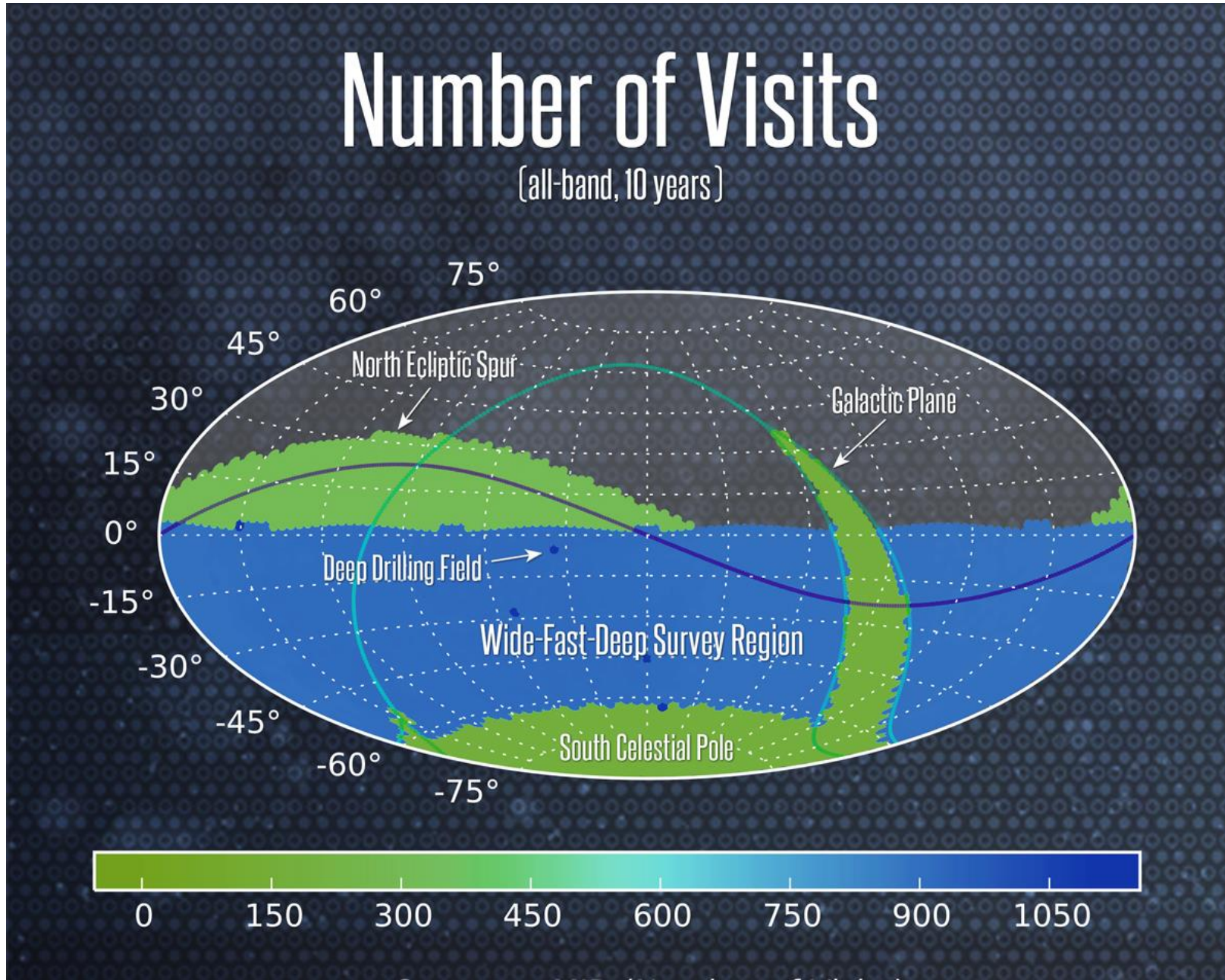


Person

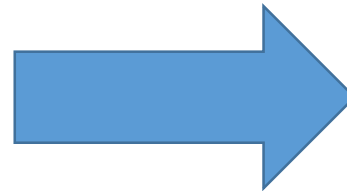
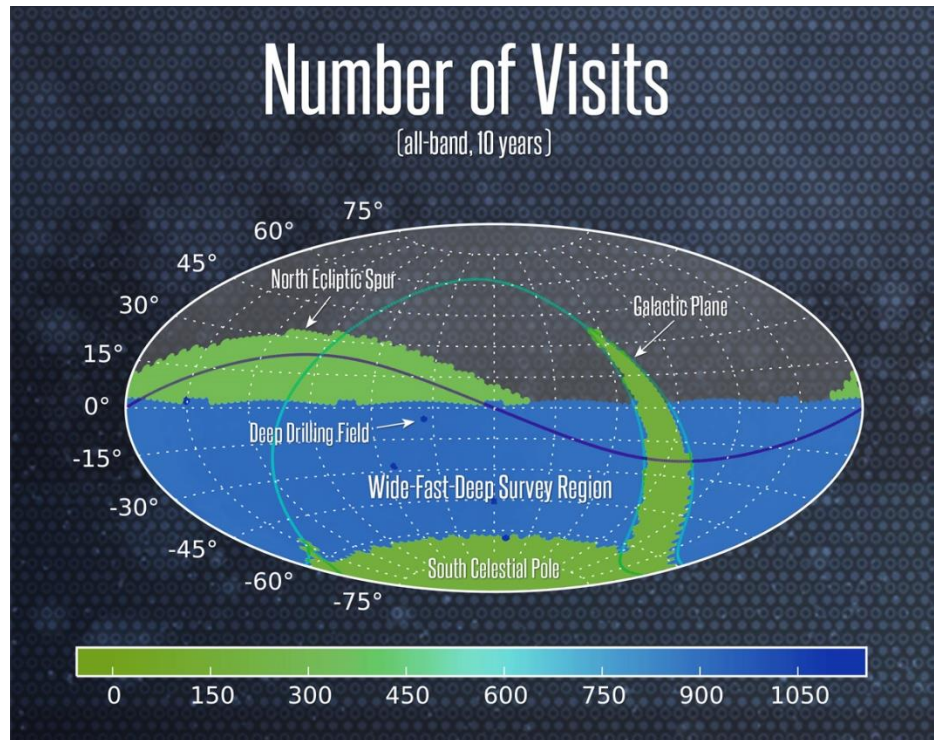
For Scale – the Size of the Mirror on LSST



LSST's Observing Strategy

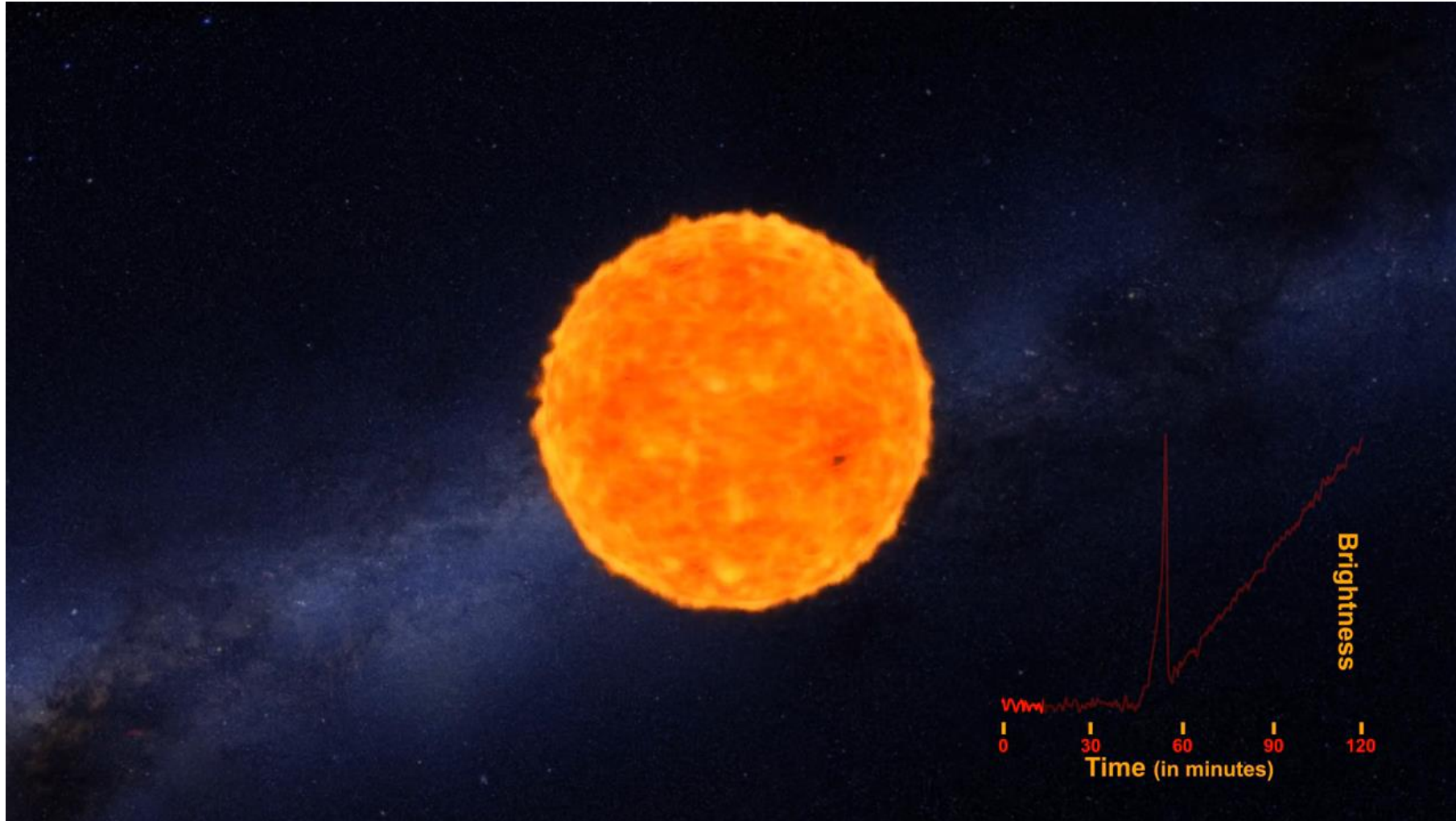


Find the Best Observing Strategy for Supernovae



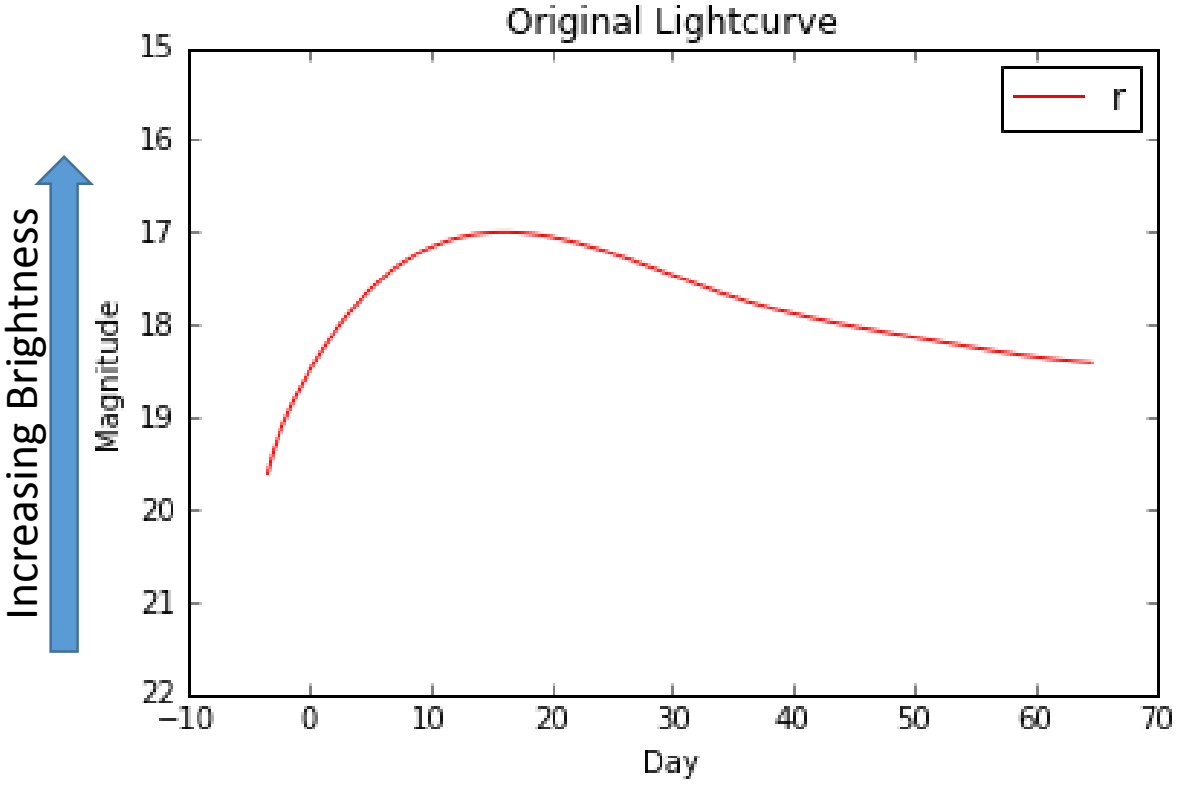
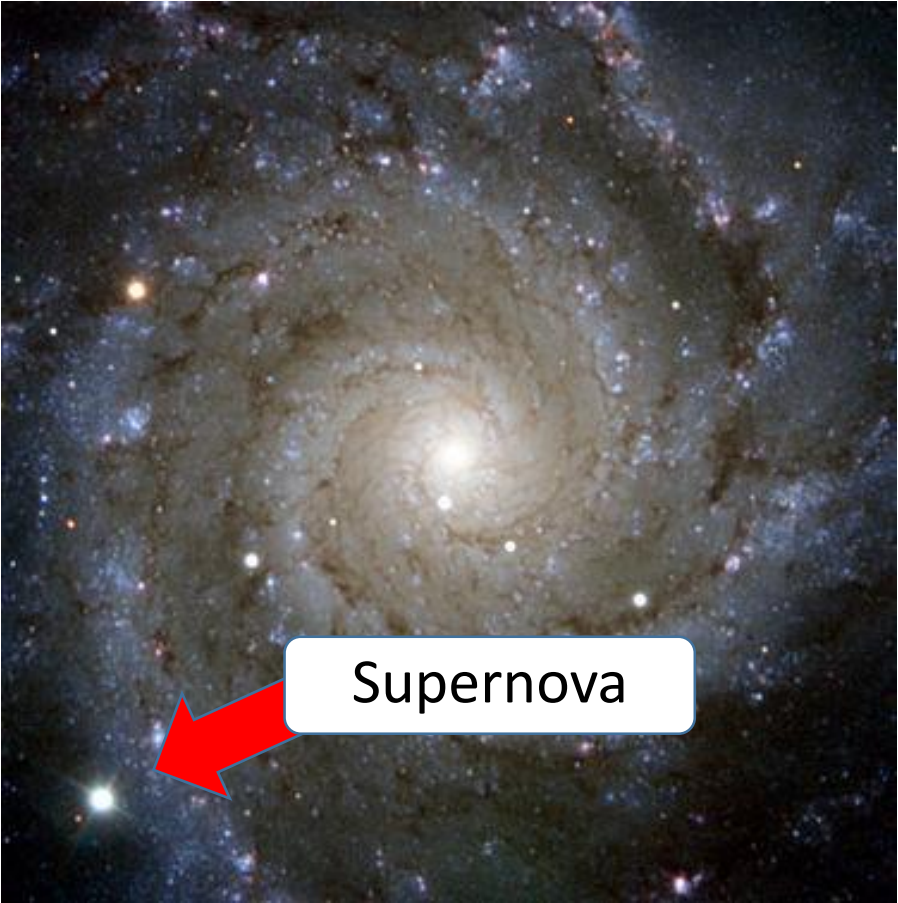
Compare with
a Different
Observing
Strategy

Supernovae – the Death of Massive Stars



Credit: NASA's Ames Research Center

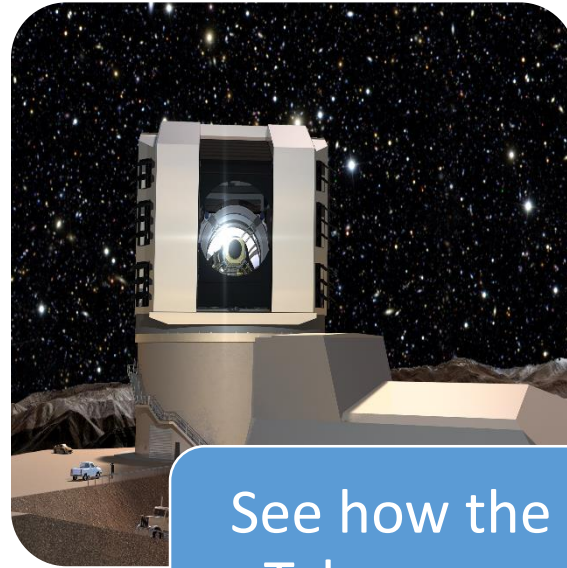
Lightcurves – Determining the Physics Behind Supernovae



Determining LSST's Ability to Observe Supernovae



Start with a
Template
Supernova

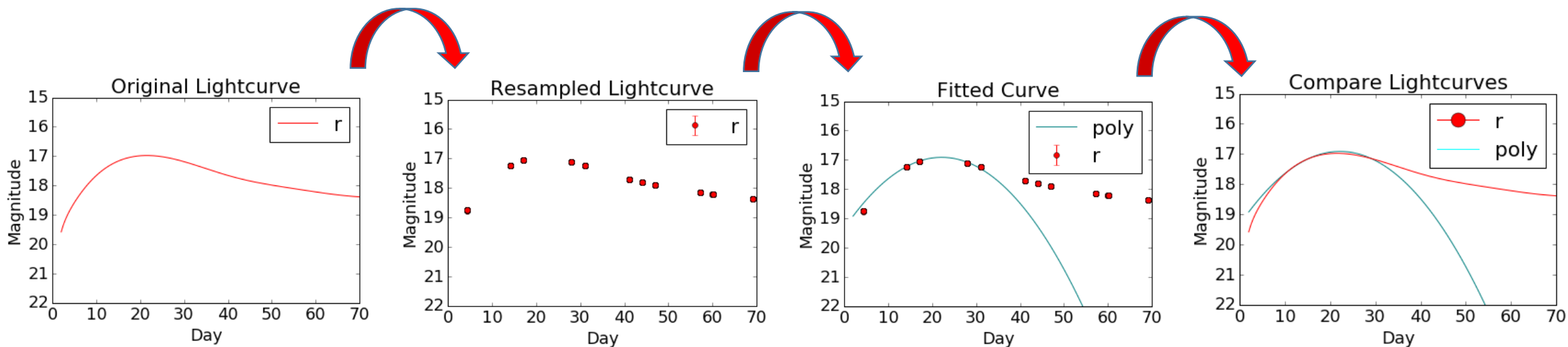
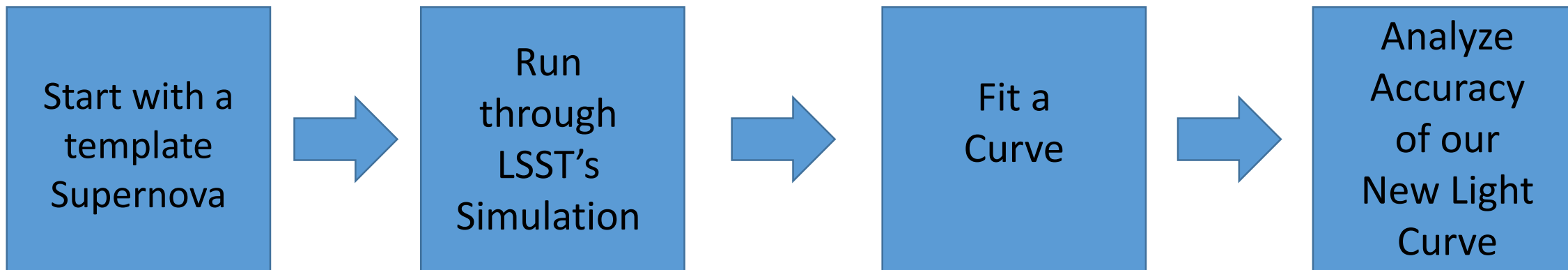


See how the
Telescope
would sample
the Supernova

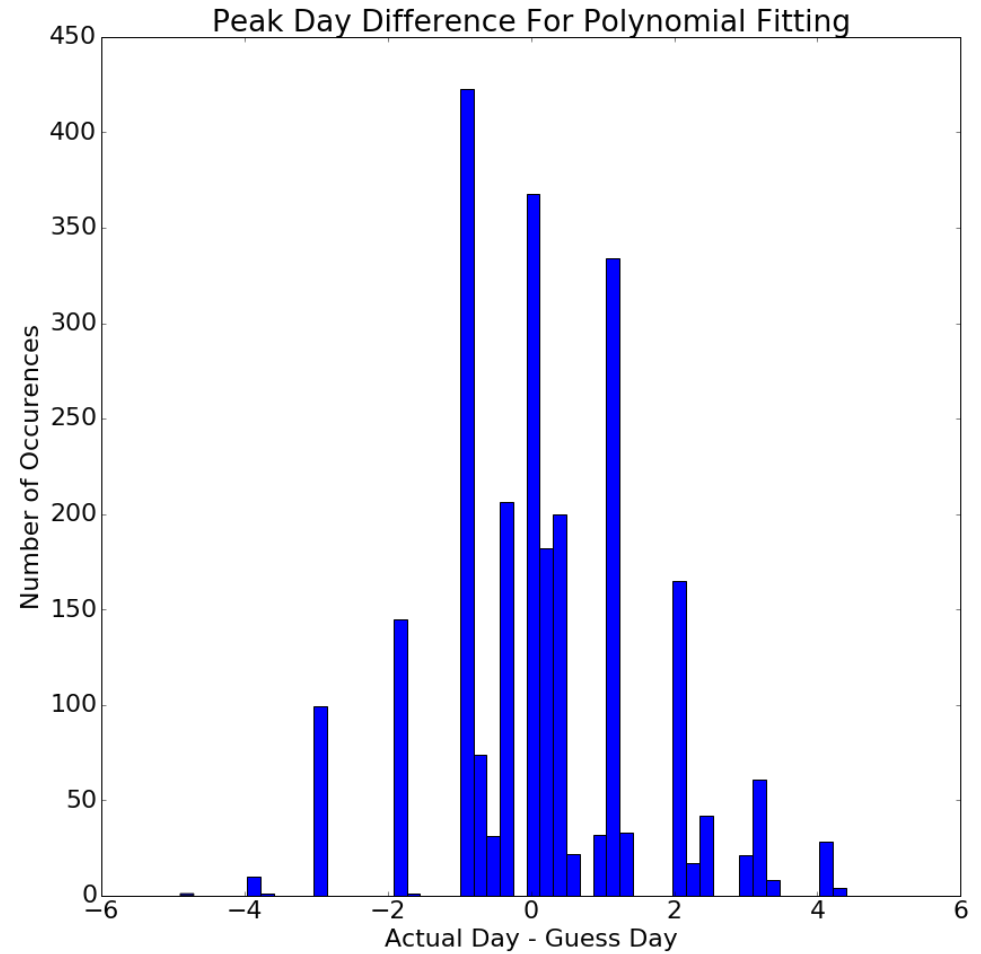
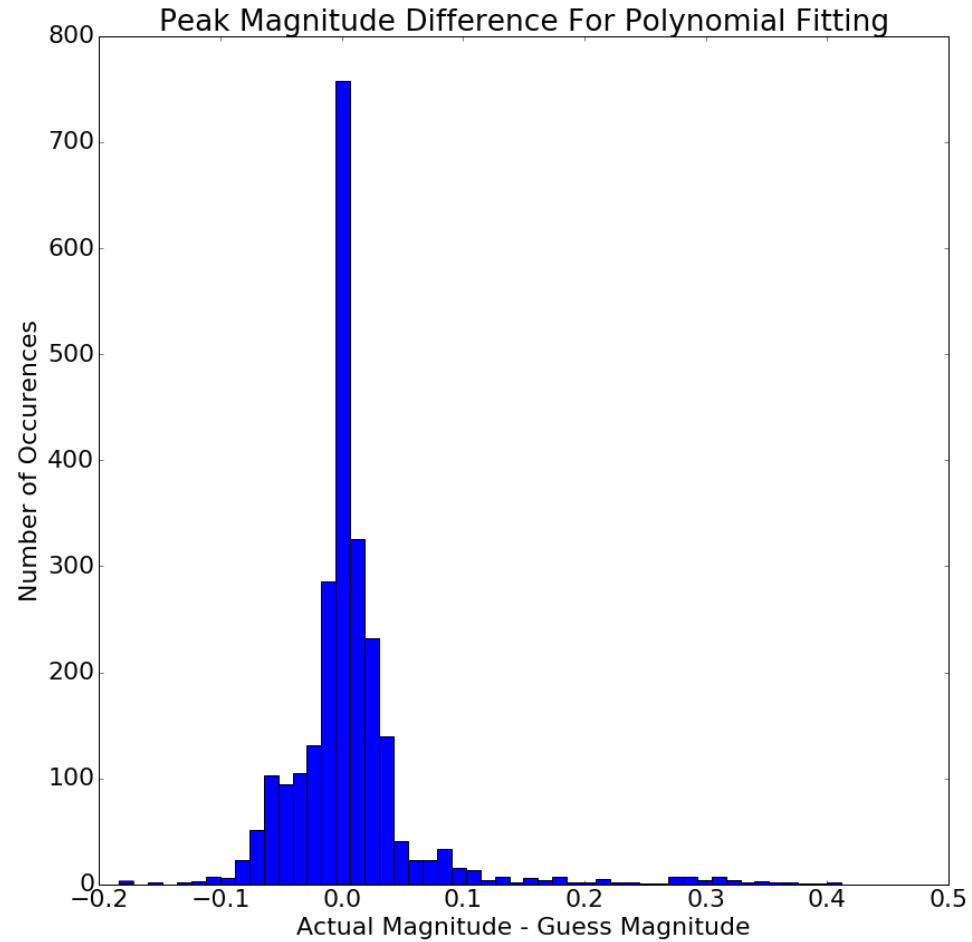


Compare the
Sampled
Supernova to
the Template

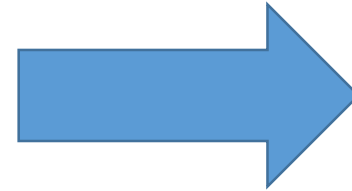
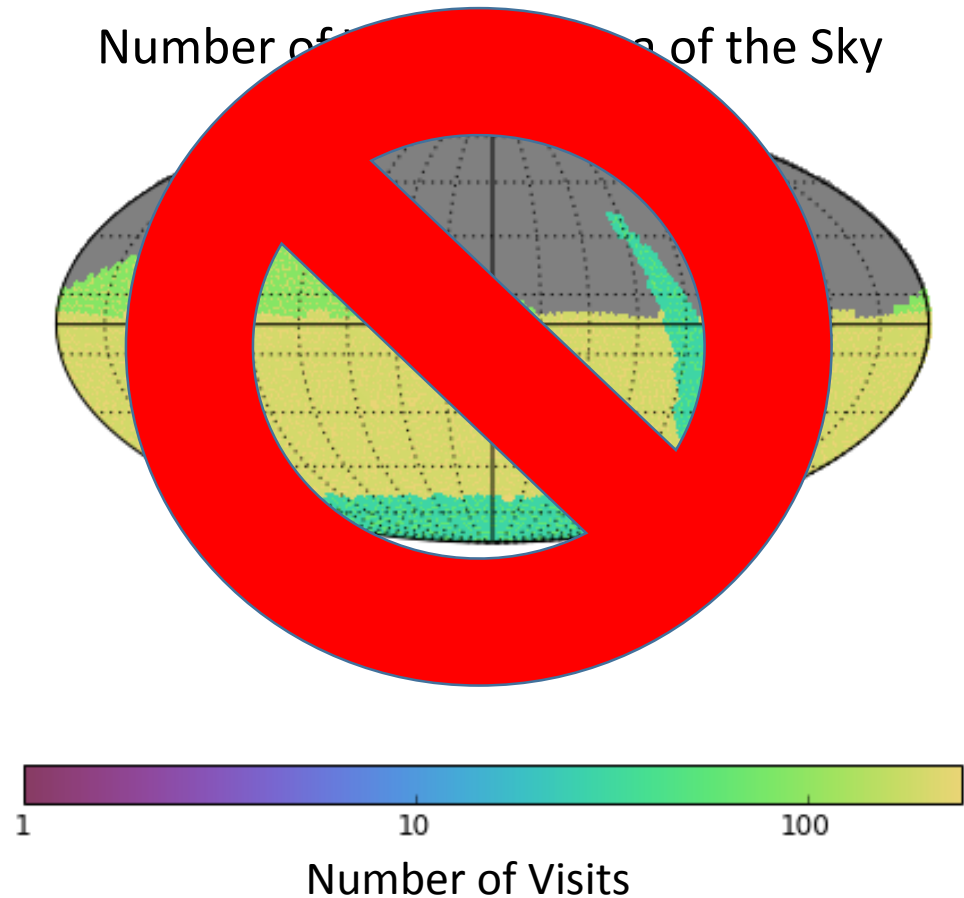
Analyzing the Usability of the Telescope's Data



Accuracy of Our Fitted Curves

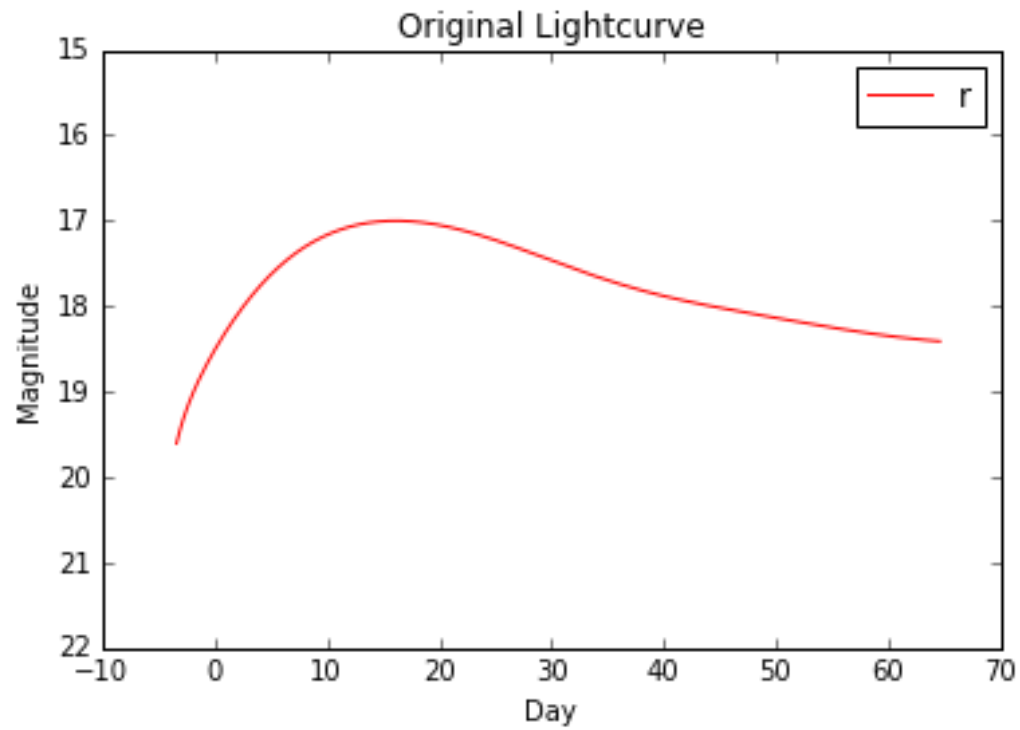


Comparing Observing Strategies

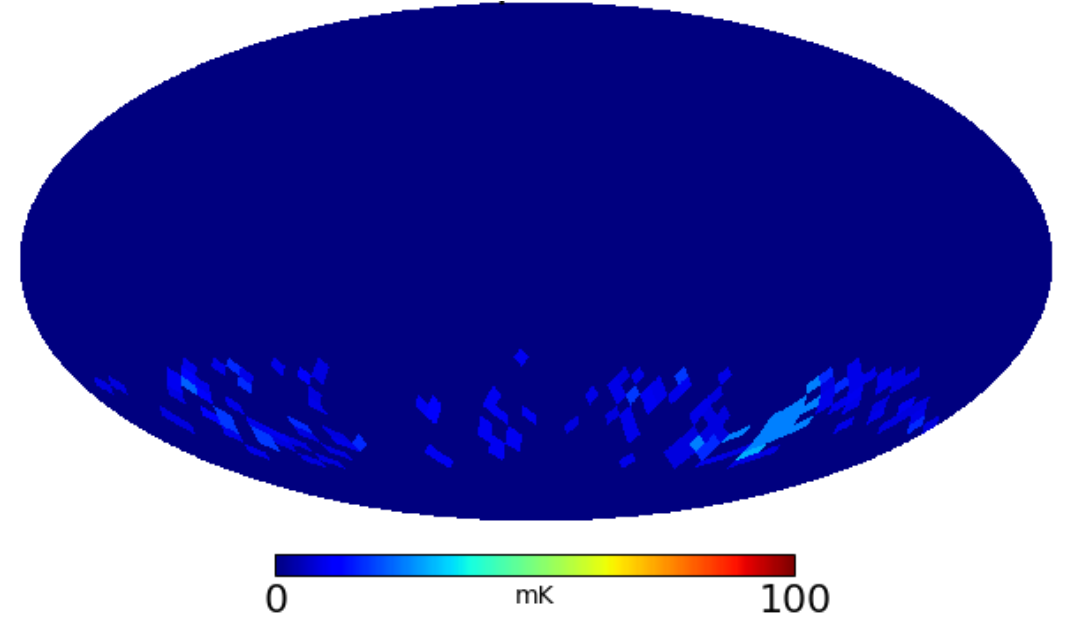


Compare with
a Different
Observing
Strategy

Future Goals



Map of Sky – Percent of Supernovae Observed by Location





Acknowledgments

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Megan Newsome

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