

# Calibration and Standardization of Large Surveys and Missions in Astronomy and Astrophysics



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## SI-Traceable Calibrations of Celestial Objects

*Wednesday, 18 April 2012 13:00 (1 hour)*

I will discuss NIST's effort to create a catalog of SI-traceable spectrophotometric standard stars. Our work builds on advances in optical metrology and atmospheric monitoring made since the previous set of ground-based calibrations were done roughly thirty years ago. NIST's state-of-the-art standards at visible wavelengths are now detector-based rather than source-based. I will explain how we calibrate the detector-based standards in the laboratory, how we maintain their calibration in the field, and what their advantages are. I will briefly explain our atmospheric monitoring program, which will be discussed in greater detail by other speakers, and present some preliminary results. My discussion will be in the context of NIST's institutional perspective on calibrations, maintaining SI-traceability, and reporting uncertainties. If time permits, I will outline other NIST activities in support of astronomy.

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