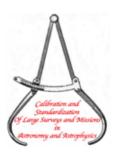
## Calibration and Standardization of Large Surveys and Missions in Astronomy and Astrophysics



Contribution ID: 42 Type: not specified

## Calibration and inter-calibration of the SNLS and SDSS-II supernova survey

Wednesday, 18 April 2012 14:40 (20 minutes)

With around 1 thousand type-Ia supernovae populating the Hubble diagram, the uncertainty of the photometric calibration of the survey now limits the precision of the cosmological parameters. We first present the method used to establish a uniform photometric response of the MegaCam instrument from CFHT used for SNLS. We then present a joint effort of the SNLS and SDSS collaborations to merge the photometric calibration of the two largest supernova surveys to date. Main products are a direct cross-calibration between the two surveys with a precision reaching 0.5%, a better understanding of the survey uniformity, and an improved absolute calibration with a redundant anchoring to the HST white dwarf system. We describe the method, dataset and results and discuss the remaining limitations and their origin.

**Primary author:** Dr BETOULE, Marc (LPNHE CNRS IN2P3)

**Co-authors:** CUILLANDRE, Jean-Charles (Canada-France-Hawaii Telescope Corp.); MARRINER, John (Center for Particle Astrophysics, Fermi National Accelerator Laboratory, P.O. Box 500, Batavia, IL 60510, USA); GUY, Julien (LPNHE, CNRS-IN2P3 and Universités Paris 6 & 7); REGNAULT, Nicolas (LPNHE, CNRS-IN2P3 and Universités Paris 6 & 7)

**Presenter:** Dr BETOULE, Marc (LPNHE CNRS IN2P3)

Session Classification: Session 3C

Track Classification: Impact of calibration errors on astrophysics parameters