SDSS SN Papers

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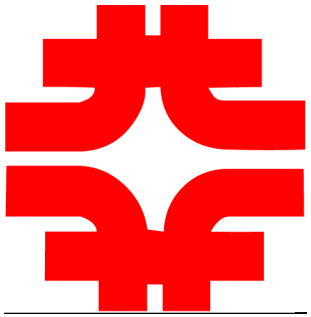
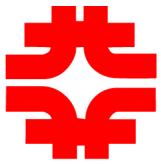


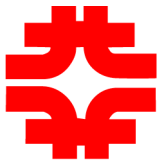


Data Release Plan

- We plan to release the data when we have the data release paper is ready: target is March 2011.
- Advantages
  - Sets a deadline to wind up SDSS responsibilities
  - Provides incentives to finish analyses.
  - Provides greater exposure for SDSS SN data.
- Disadvantage: If we have analyses still in progress, there is a risk that some one else may publish their analysis first.
- Regardless of the risk, the SDSS SN collaboration will be seen as the authoratative analysis.

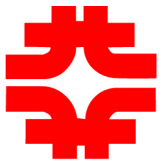
Cosmology Paper

- The problem
  - SDSS data, by itself, does not provide strong constraints on popular cosmologies.
  - Compared to 1st year data paper, the statistical accuracy is improved by sqrt(3) – assuming that improvements are made in the systematic errors.
- We have started work with SNLS with light curve analysis. It is possible that this could evolve into the definitive paper on cosmological constraints (at least for a couple of years).



Issues

- Do we want to write a paper on SDSS data alone (other than the data release paper)?
- Will we be able to do something new with MLCS?
- What about Sifto?
- Will the SALT2 retraining resolve the U-band dilemma?
- Can we quantify the effect of template errors on cosmology?
- Will we understand the photometry problem in the CfA data?



More Issues

- What about CMAGIC?
- Add galaxy properties to distance modulus estimate (based on galaxy mass)?
- Use photometrically ID'ed sample?
- Compute bias in distance modulus as a function of z.
- Systematic error as a function of z
- Re-evaluate systematic error table.
- Uniformity of analyses is a concern.

Table 9: Systematic uncertainties in w for the SALT−II analysis of the FwCDM model, including the BAO+CMB prior. Negative values indicate asymmetric uncertainties.

	Uncertainty on w for Sample:					
Source of Uncertainty	*a*	*b*	*c*	*d*	*e*	*f*
Rest frame U-band	−0.100	0.104	−0.133	0.104	0.104	0.104
z_{min} cut for Nearby sample	0.050	0.030	0.050	0.030	0.030	0.030
Galactic Extinction	0.005	0.008	0.007	0.010	0.010	0.010
SALT−II SN Ia MODEL PARAMETERS						
retraining : include SDSS data	0.008	0.005	0.017	0.011	0.005	0.005
dispersions of SALT-II surfaces	0.001	0.003	0.002	0.006	0.006	0.004
β-variation with redshift	0.0	0.05	0.0	0.05	0.02	0.05
SELECTION EFFICIENCY						
simulated bias	0.020	0.011	0.009	0.002	0.001	0.012
CALIBRATION						
0.01 mag errors in U, B, V, R, I	0.029	0.030	0.027	0.022	0.020	0.022
shifted Bessel90 filters	0.000	0.000	0.015	0.010	0.008	0.013
vary SDSS AB offsets for g, r, i	0.018	0.037	0.031	0.015	0.016	0.000
vary ESSENCE $R - I$ color zeropoint	0.000	0.035	0.000	0.036	0.021	0.025
vary SNLS g, r, i, z zeropoints	0.000	0.057	0.000	0.046	0.030	0.043
vary HST zeropoints	0.000	0.000	0.000	0.000	0.015	0.000
Total	$^{+0.06}_{-0.12}$	0.14	$^{+0.07}_{-0.15}$	0.13	0.12	0.12