

# Comparing 6 and 4.5 month seasons

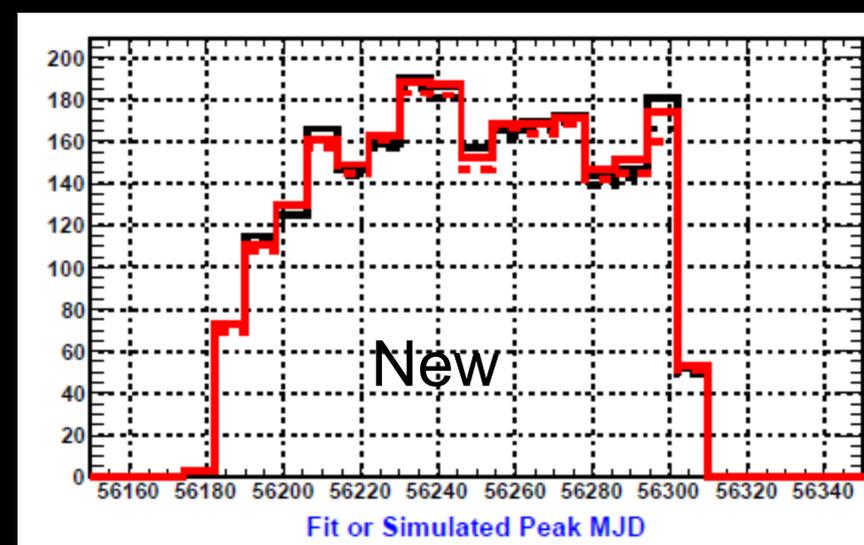
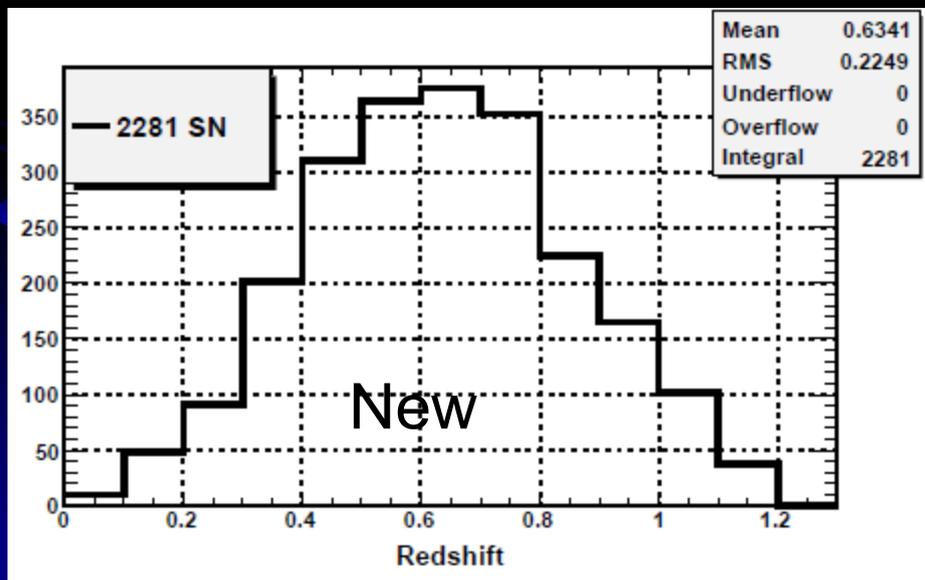
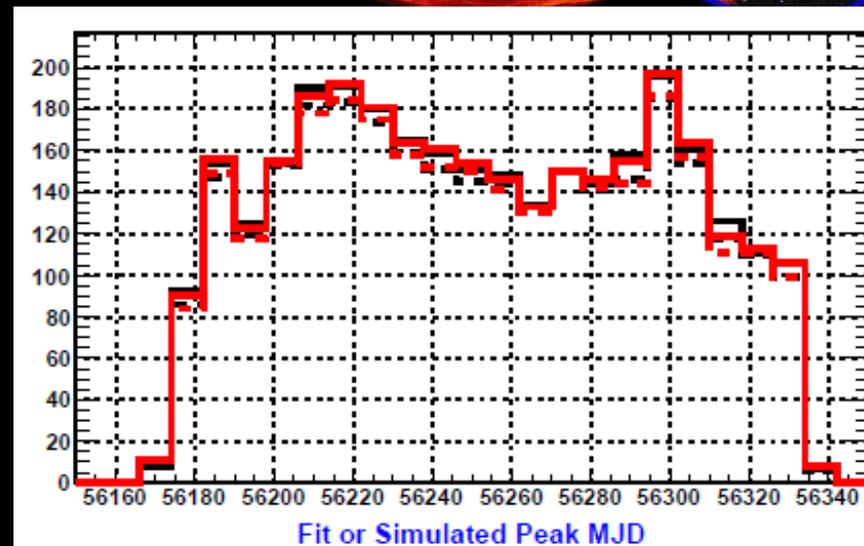
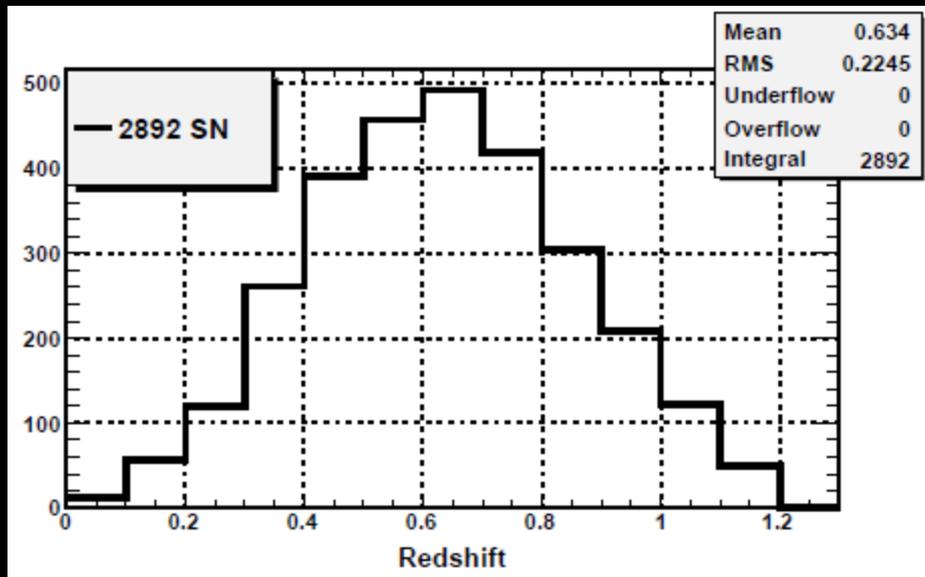
## Overview

- Jim Annis has a new proposed DES survey proposal DOCDB 4739
- Concentrate the season in Nov-Dec when the survey area is overhead
- Shortens the season from 6 months to 4.5 months, how bad for SN?
- New seeing cut implemented but still bugs. This presentation is with original photometric/non-photometric triggers for SN survey.

## Proposed 4.5 month season and community time

DES nights	Season: 2012-2013	Season: 2013-2014
September	11-13, 17-20, 24-27	20-30
October	1-13, 17-19, 24-27	1-2, 6-8, 13-16, 20-31
November	1-10, 13-30	3-30
December	1-23, 25-30	1-23, 25-30
January	1-31 (2-31 first half nights)	1-31 (2-31 first half nights)

# The Dark Energy Survey



As a test added one "SN night" on Sep 4<sup>th</sup>, 1 week before official start, recovered 120 SN

**Loss of ~25% SN with 4.5 month season (~4.5/6)**

**How much does SN quality degrade at edges?**

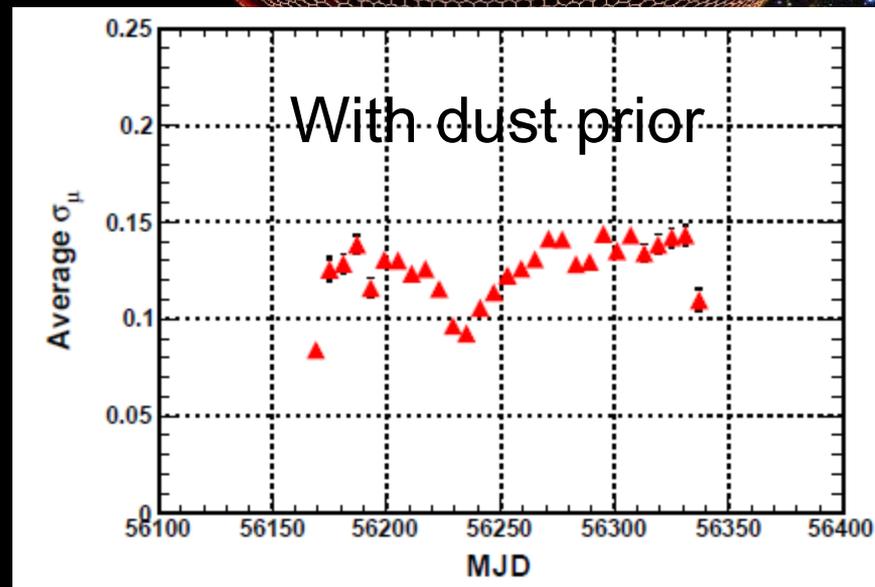
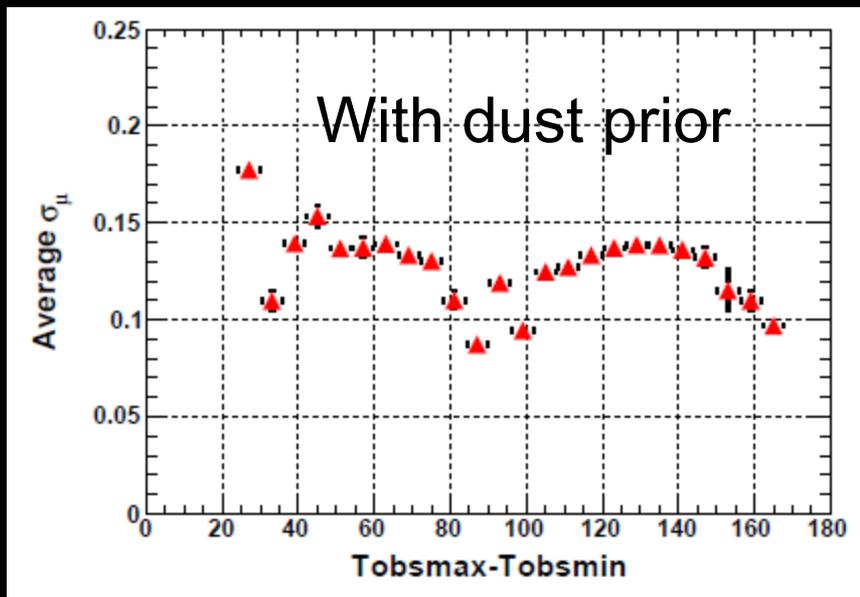
**Definitions:**

**Tobsmin/max are earliest/latest epochs, in any filter, in observer frame**

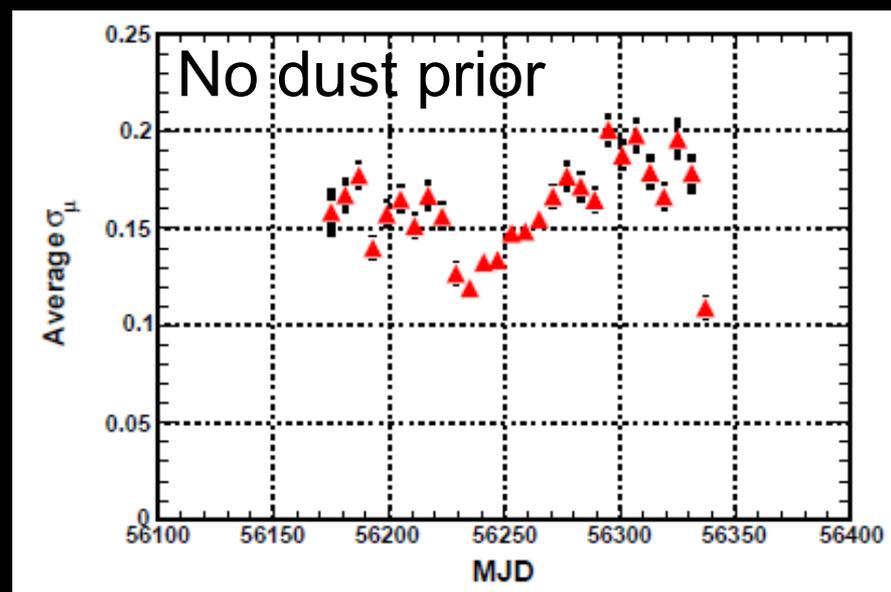
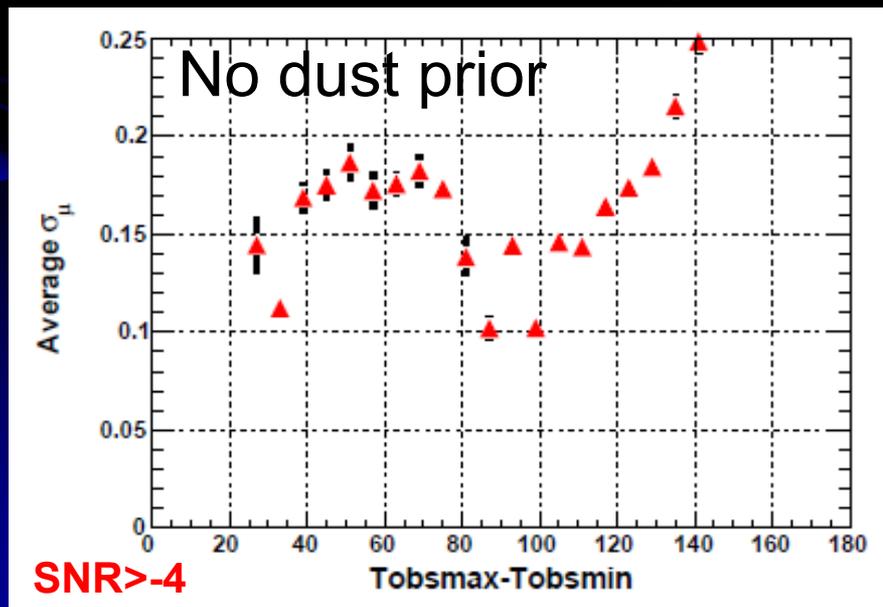
**Trestmin/max the same for rest frame**

**Nepochs total number of filter observations passing SNR**

**SNR cut on epoch either -4 (allowing zero or small negative fluxes after background subtraction) or +3**

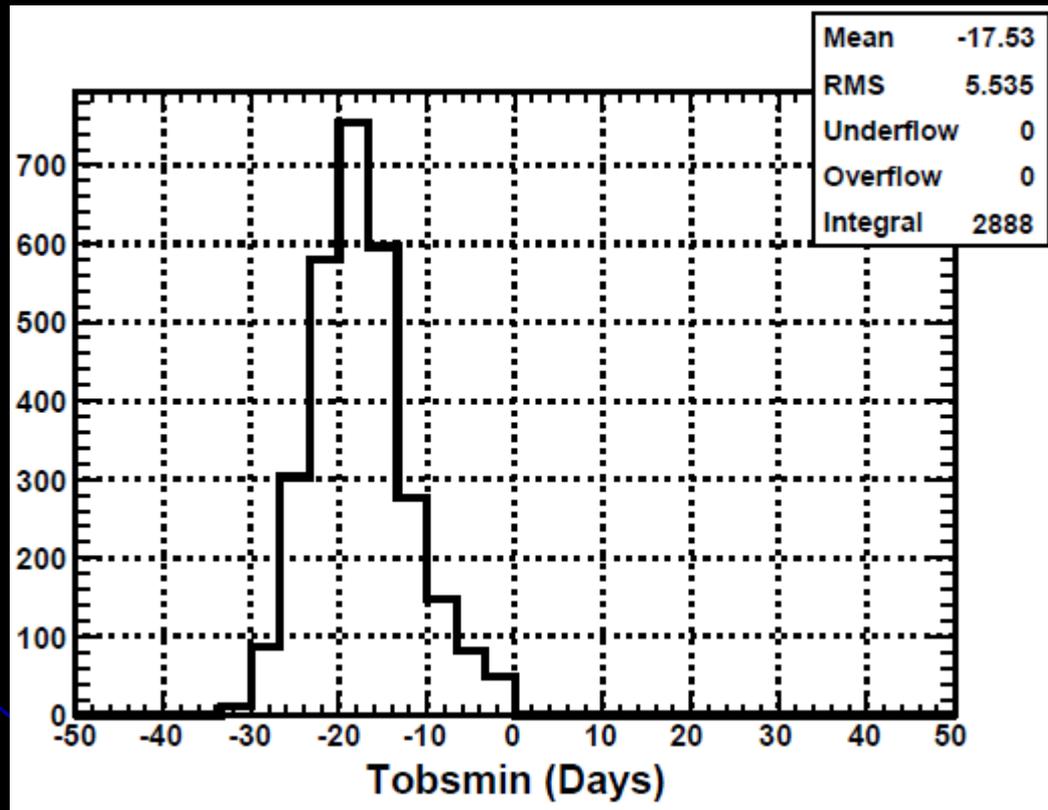


All following plots with no dust prior

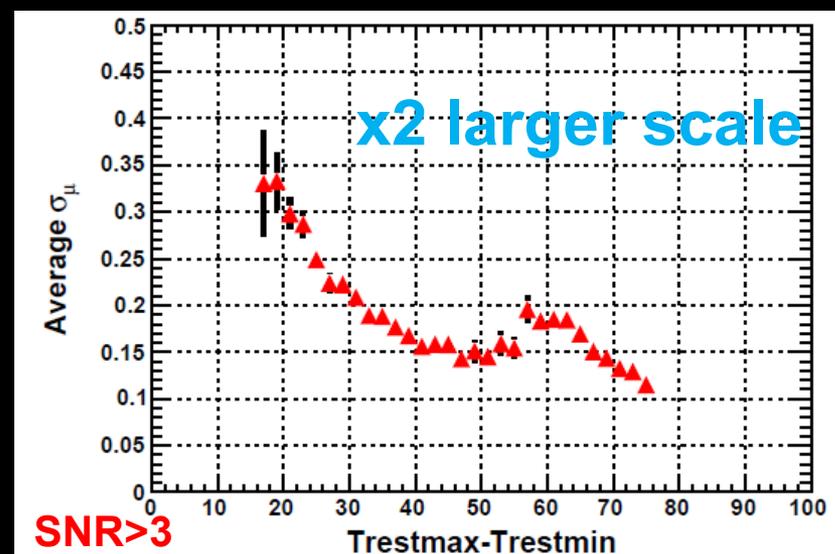
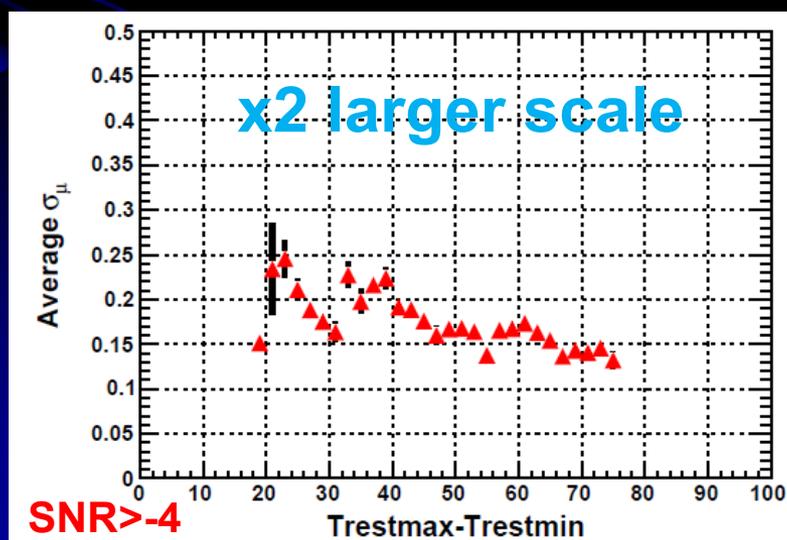
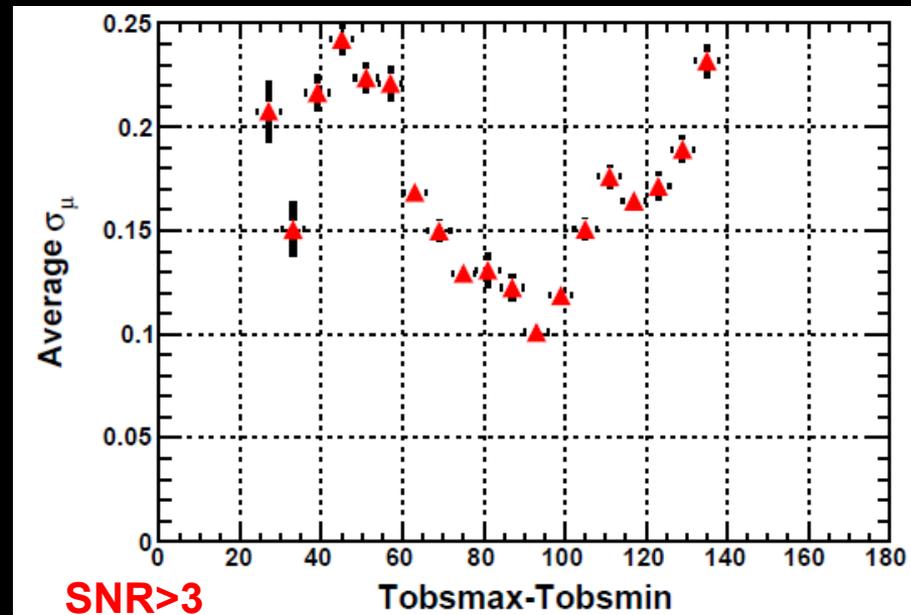
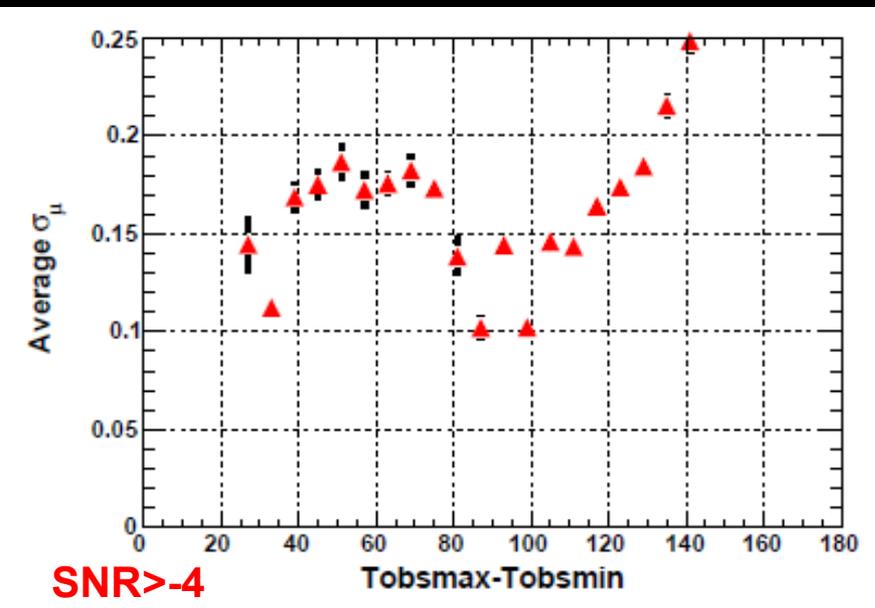


All plots 6 month survey

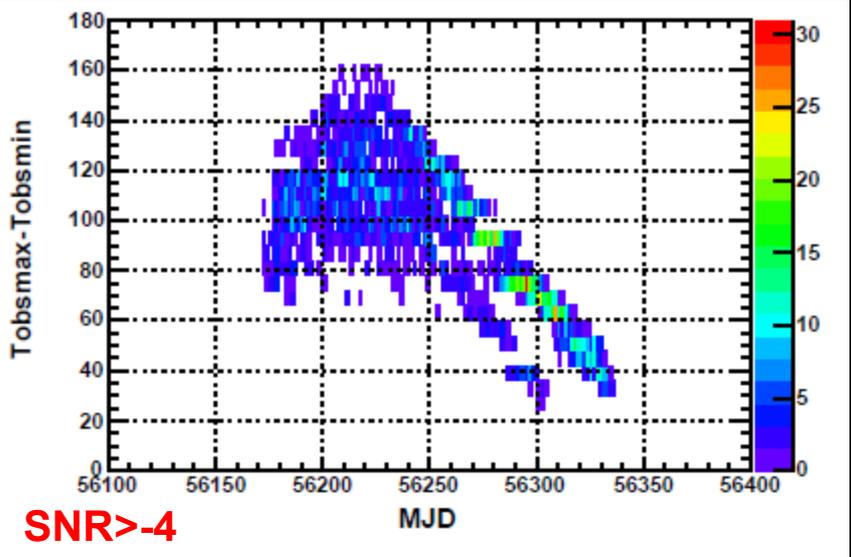
We cut on  $T_{\text{restmin}} > -15$  but no  
cut on  $T_{\text{obsmin}}$



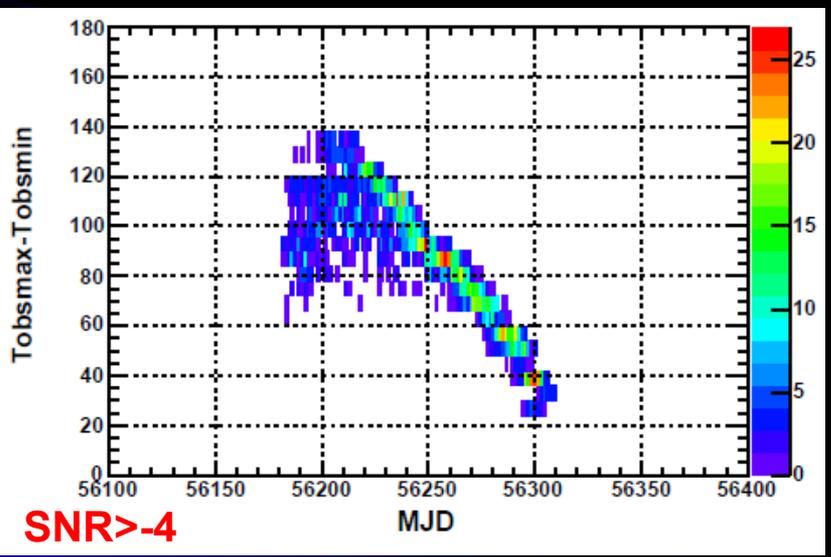
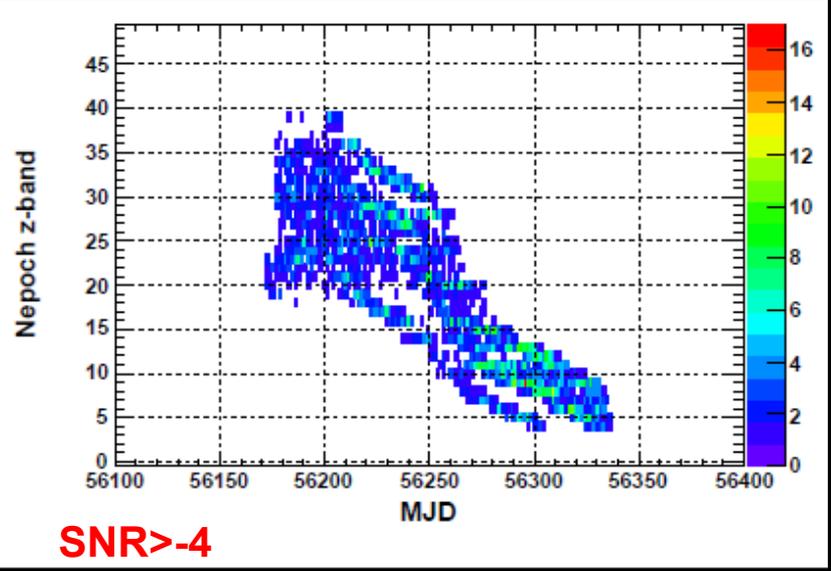
# All plots 6 month survey



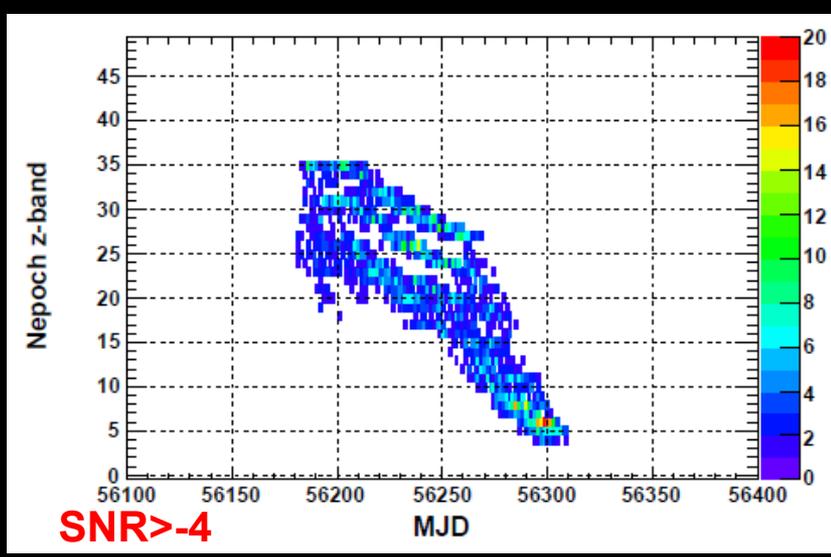
Colors represent  $N_{\text{SN}}$  in each bin.



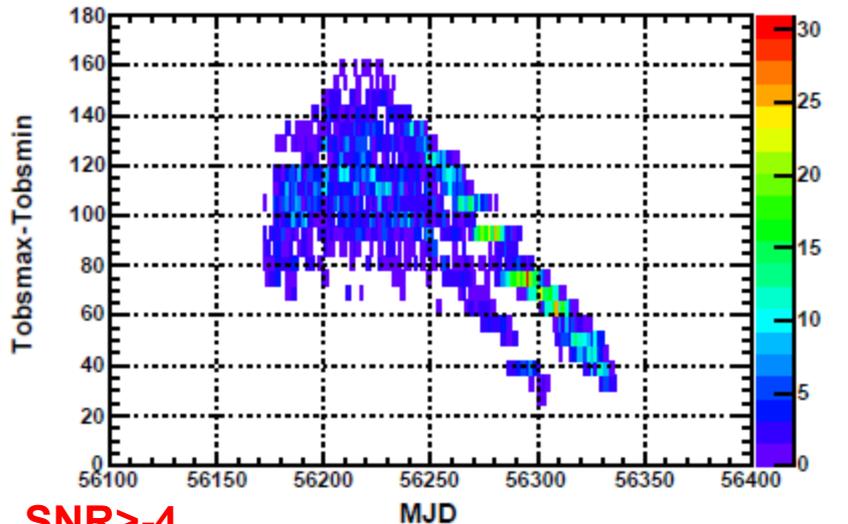
6 month survey



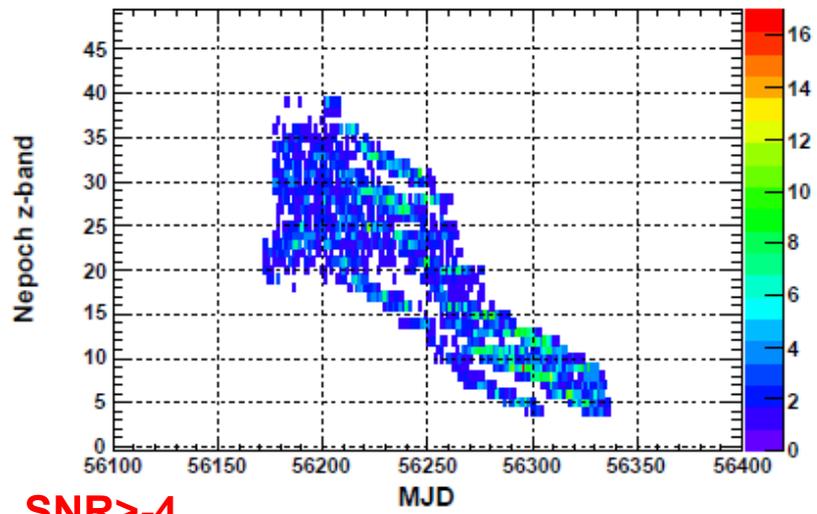
4.5 month survey



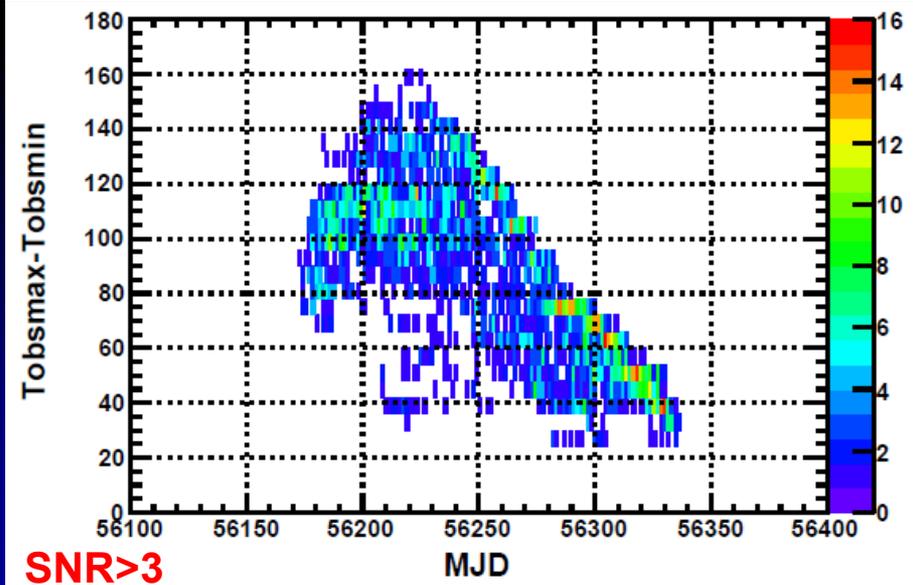
All for 6 month survey



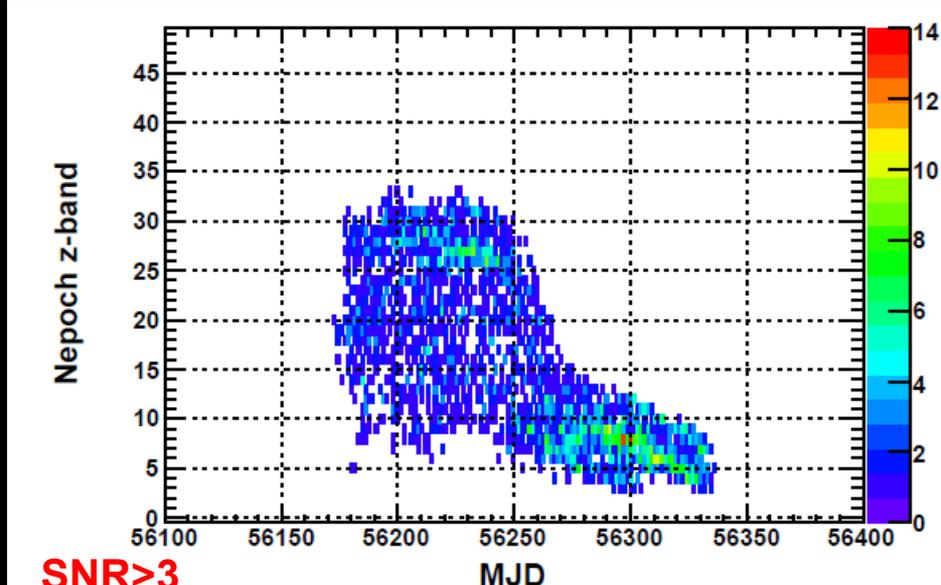
**SNR > -4**



**SNR > -4**

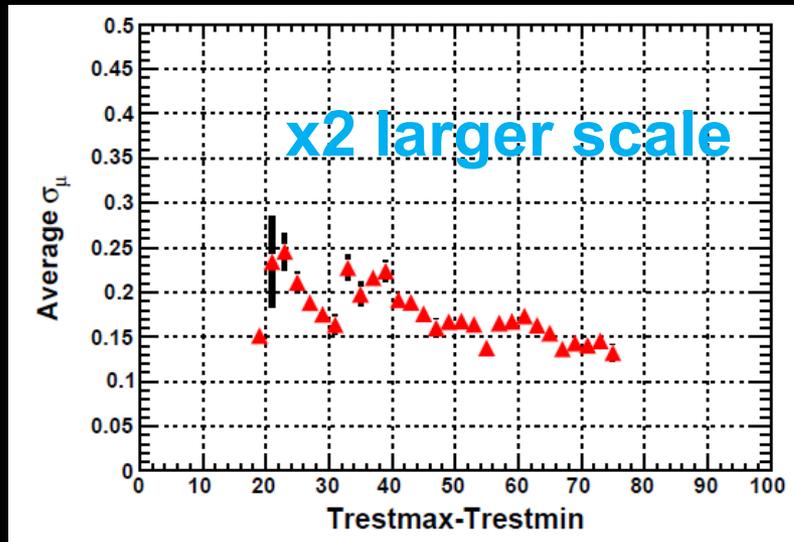


**SNR > 3**

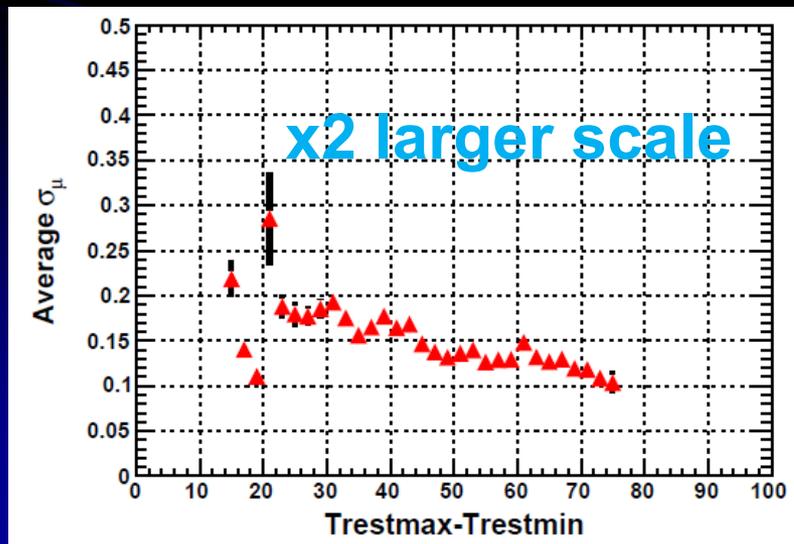
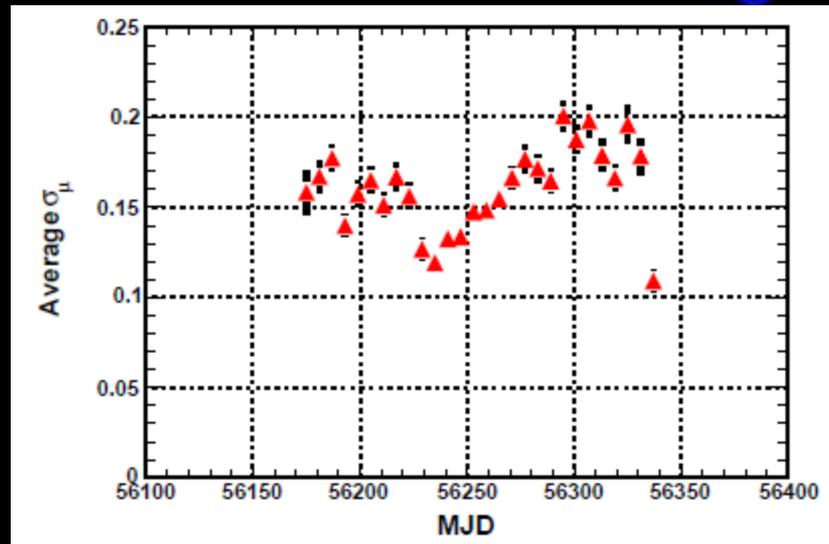


**SNR > 3**

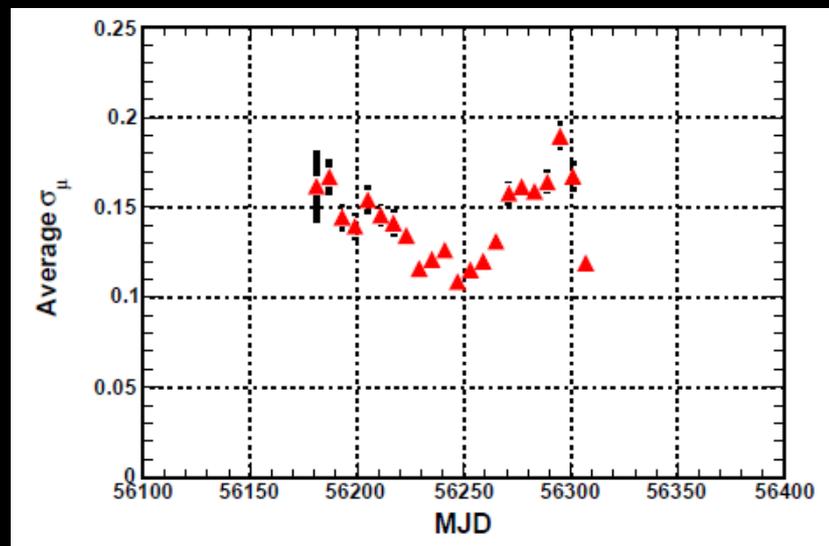
# The Dark Energy Survey



6 month  
survey

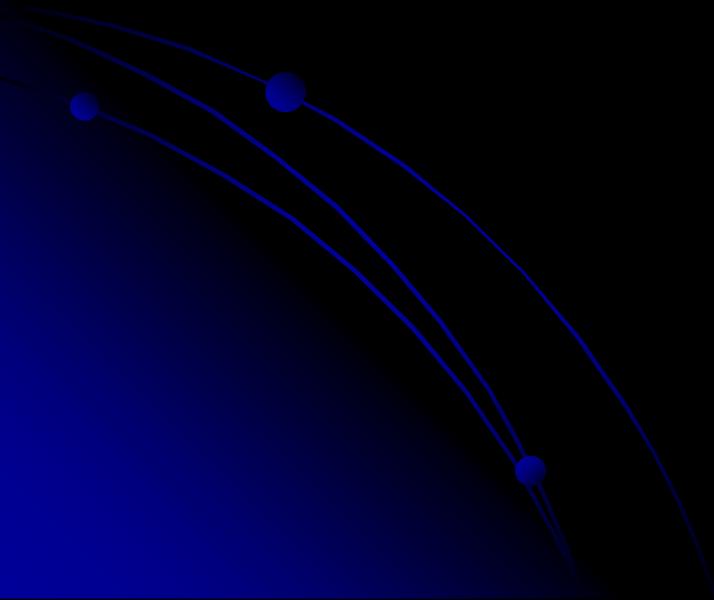


4.5 month  
survey  
better?!

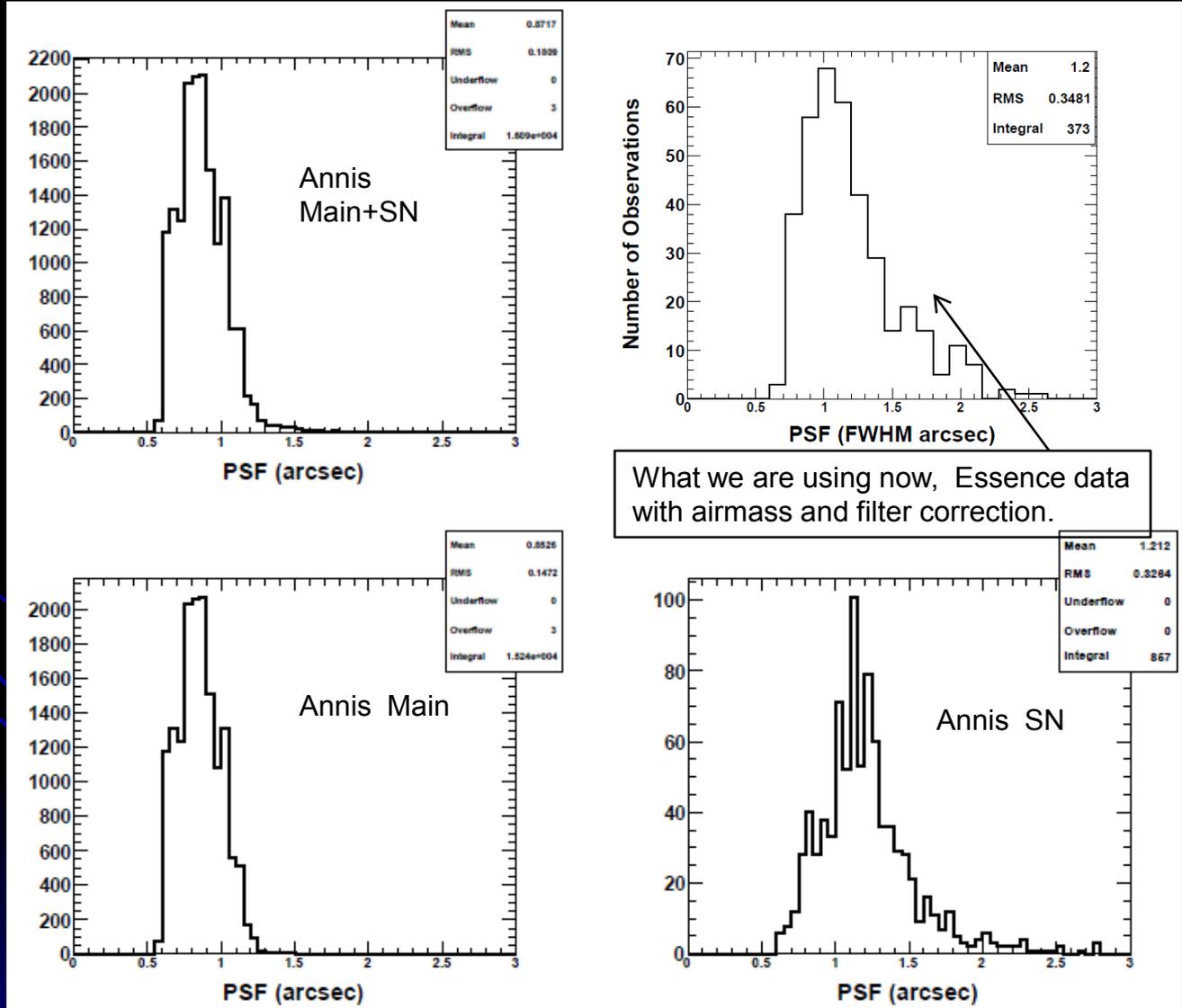




Backup slides from previous meeting(s)



# New DES Main/SN Survey Proposal



What we are using now, Essence data with airmass and filter correction.