

Preliminary review of TOF (and related) DST Variables

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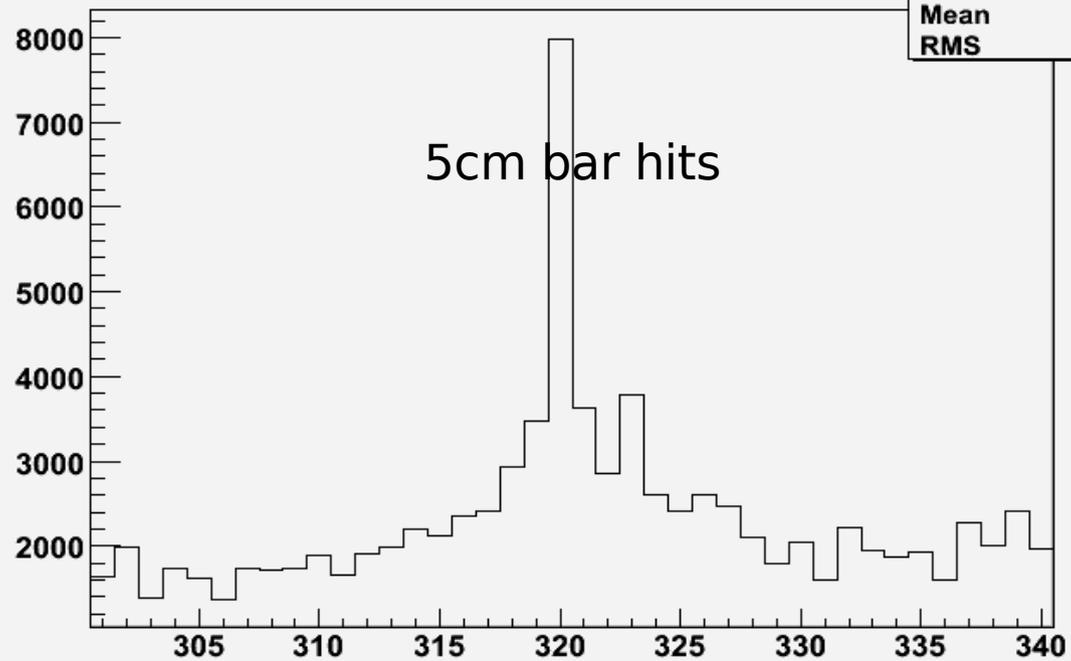
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Overview

- Used Andre's DSTUtil package to look at the latest DST version of run 15860, Carbon 120
- Check TOF variables
- Check new variables added that may be relevant to TOF calibration

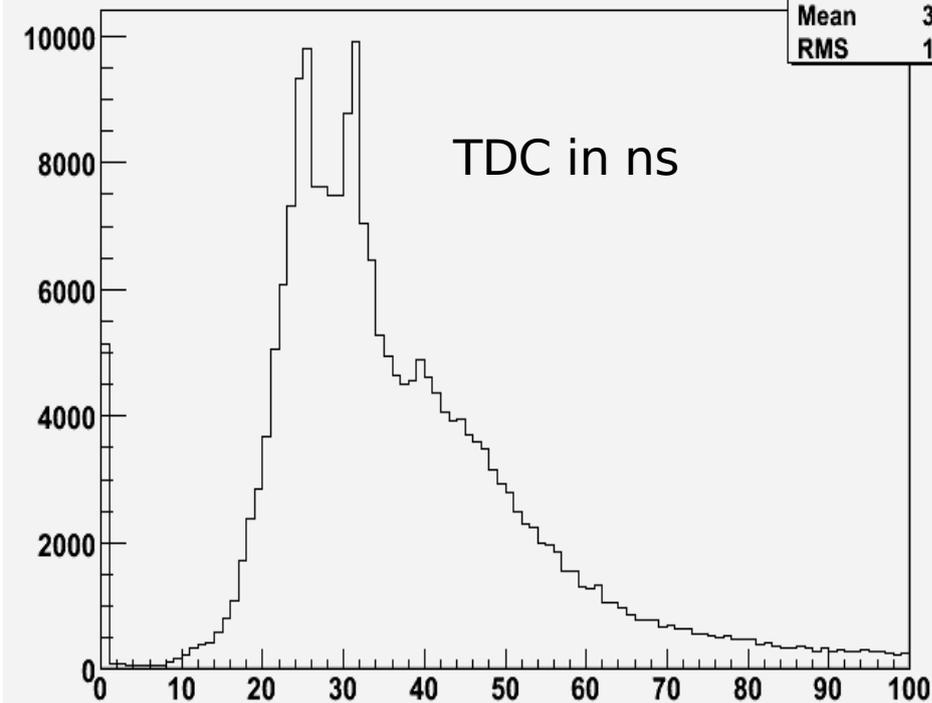
Basics

Bar hit



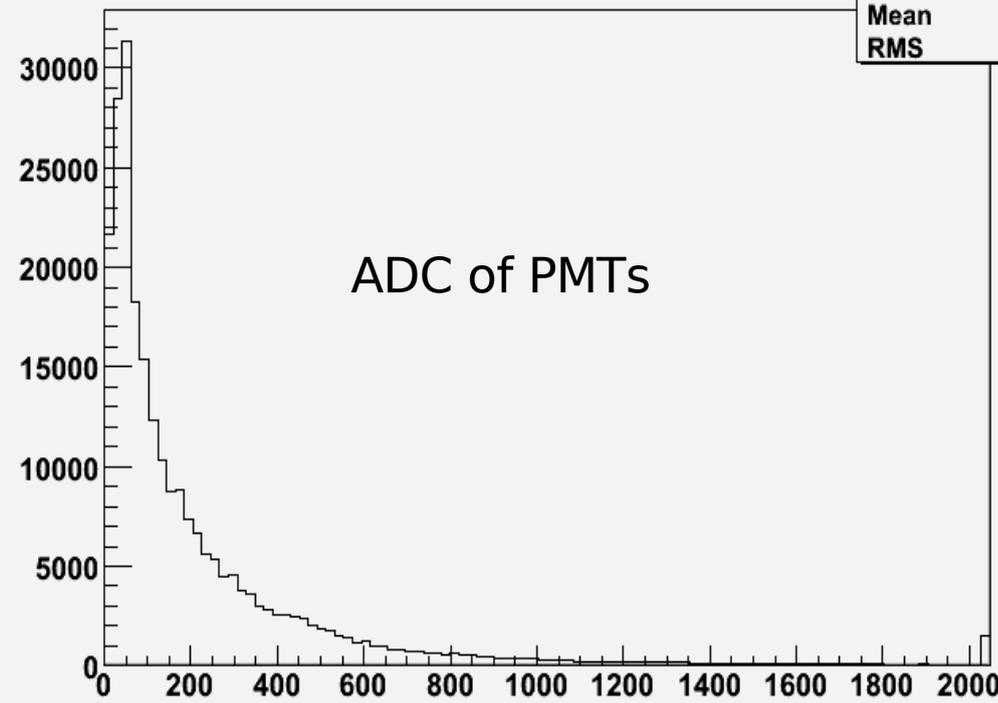
pmtbar	
Entries	242865
Mean	321.1
RMS	10.41

PMT TDC

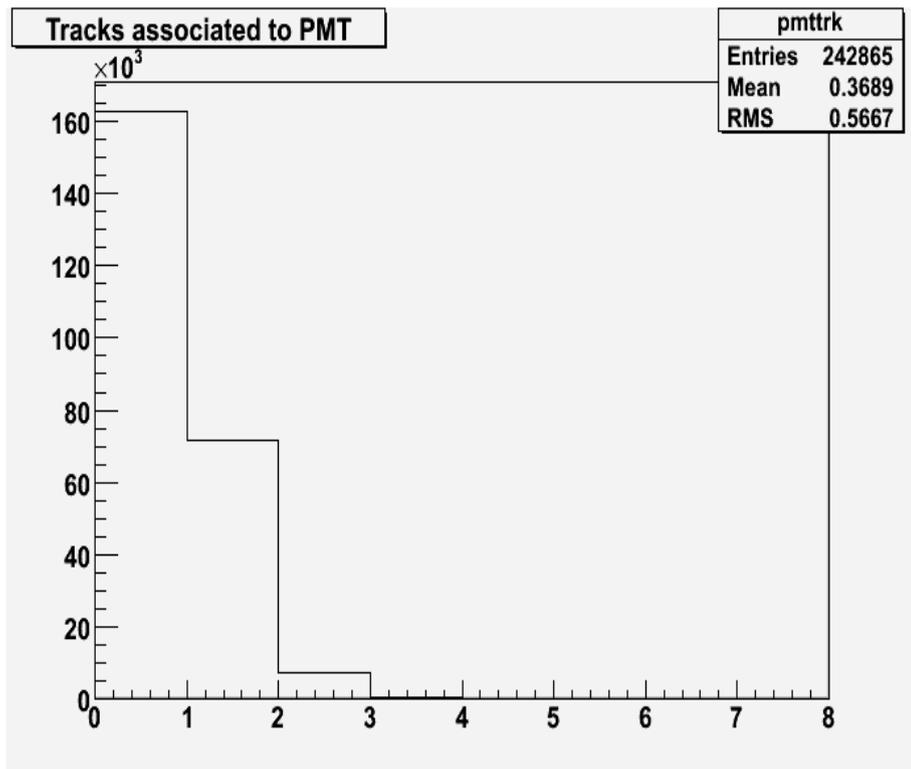
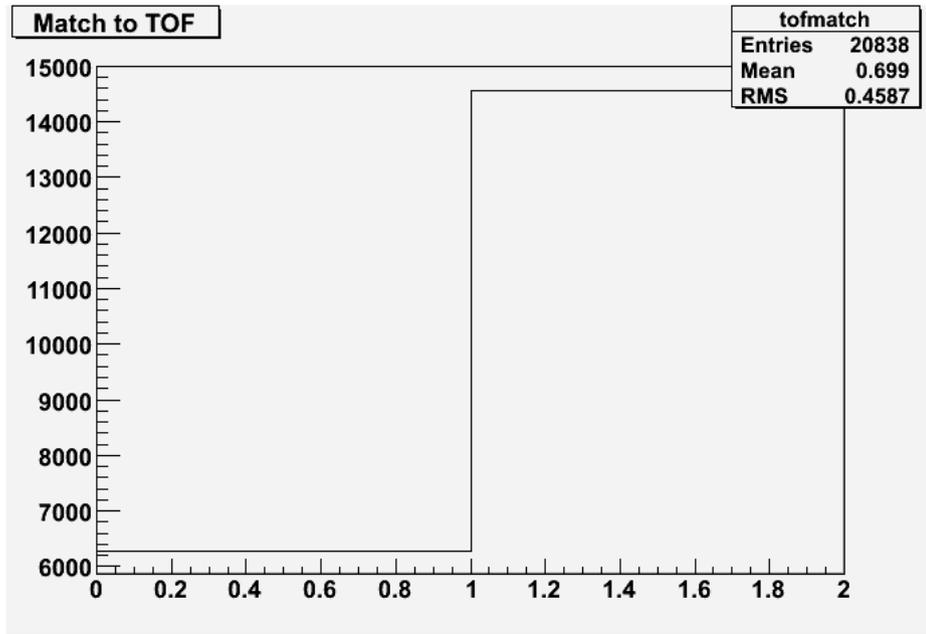


pmttdc	
Entries	242865
Mean	37.08
RMS	16.83

PMT ADC

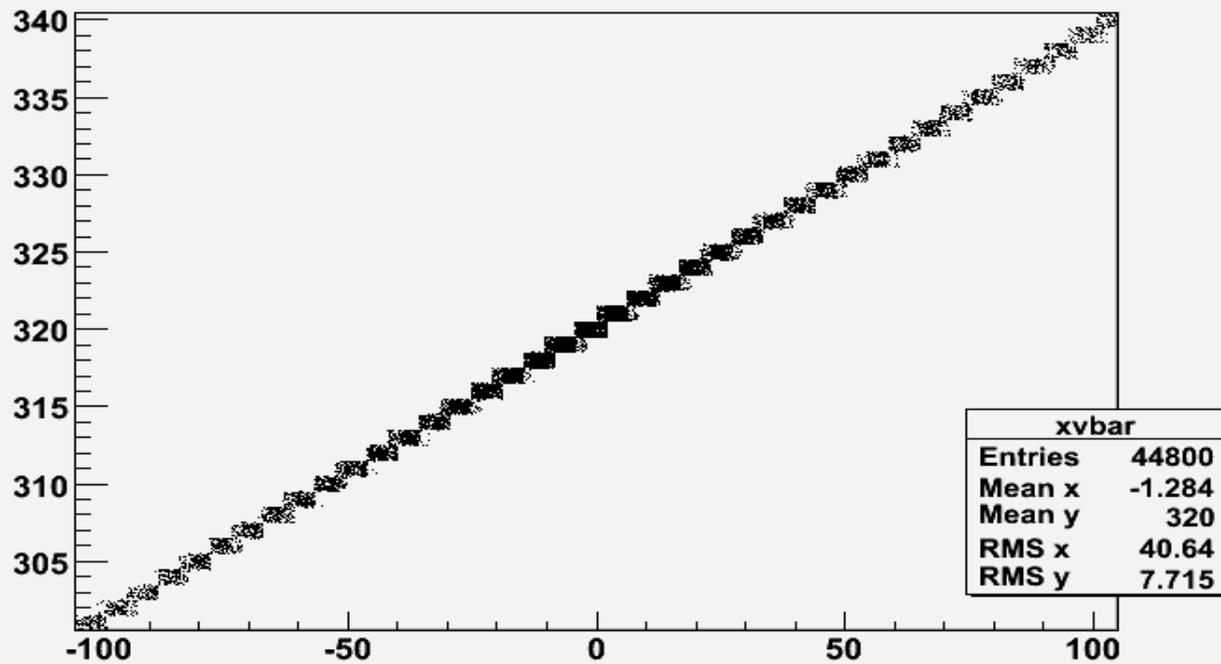


pmtadc	
Entries	242865
Mean	222.5
RMS	302.8

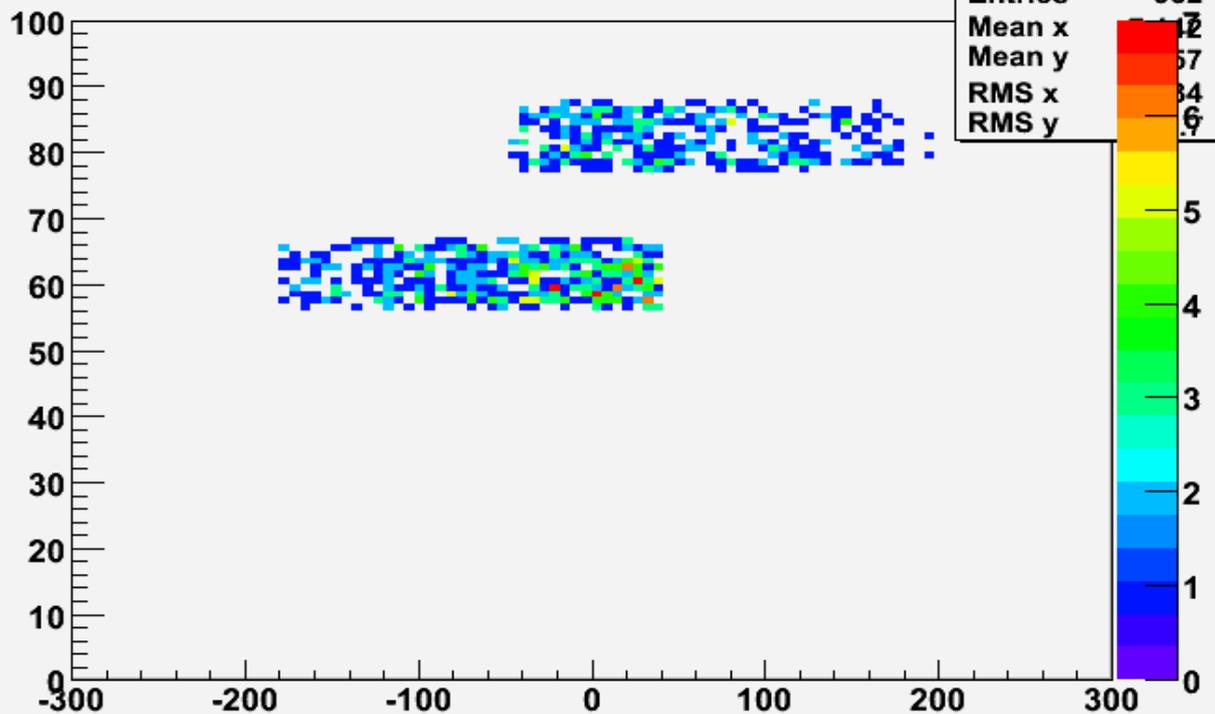


- Good matching of tracks with $p > 1\text{GeV}$ to TOF (Bars not PMTs)
- Some PMTs see more than one track

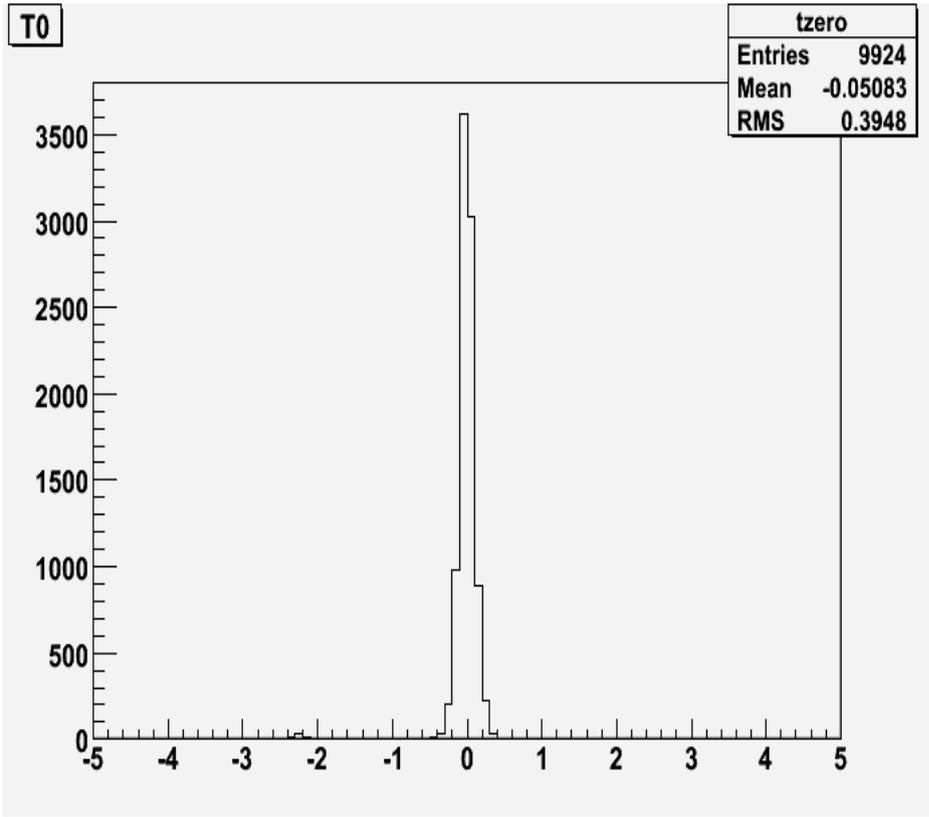
TOF Bar vs X position



X vs Y at cal bar

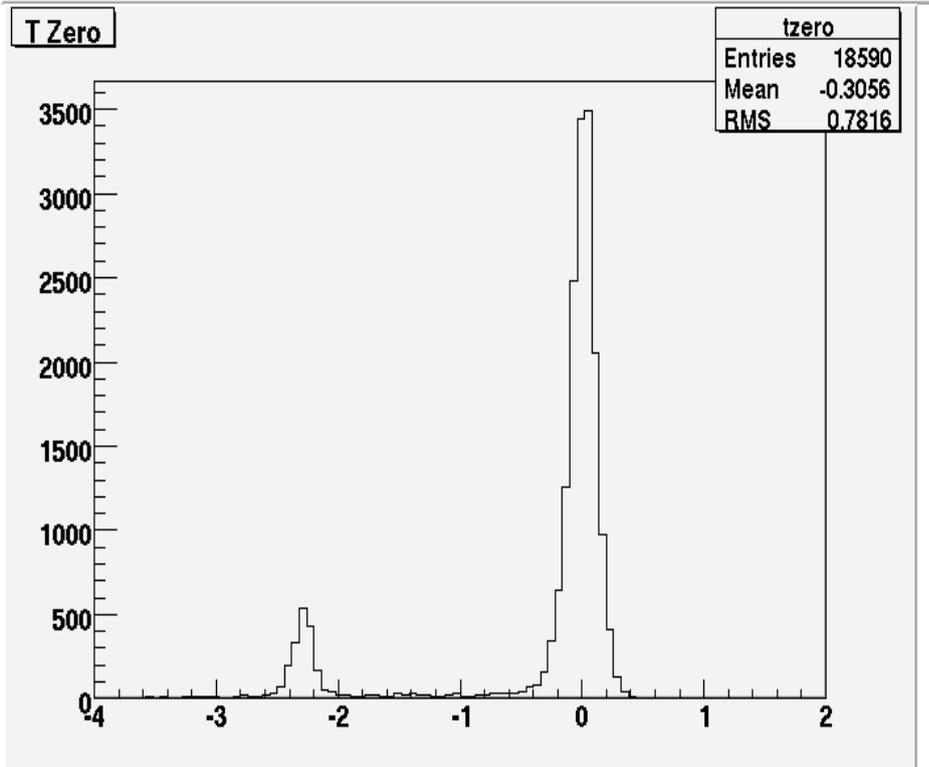


- Track to bar matching checked by plotting bar number versus x position
- Checked Bar and pmts point to same track
- Plot x vs y position of Calibration bar hits

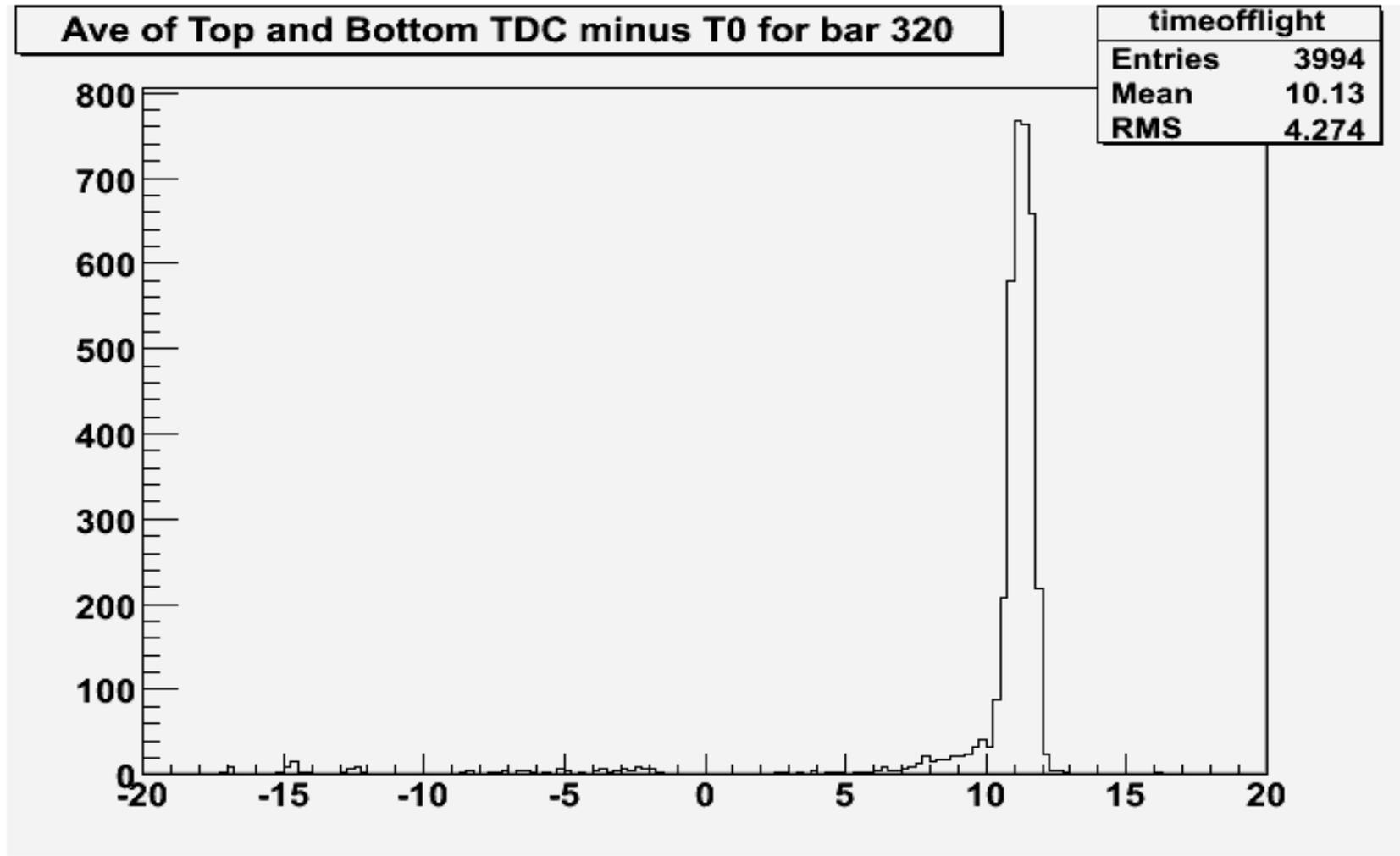


T0

- Changes in T0
- May see effect on time of flights, but when using previous DST I cut events in second peak



Quick time of flight for beam tracks



Future

- TOF variables are as expected
- Additional variables (no longer track dependent) will help track down superluminals – next step
- Added to validator
 - X vs Bar position
 - PMT to track match
 - More later