Current Calibration and 6 Degree Shift Correction Update

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^{3}He Group Meeting

3 February 2005

Current Calibration

- Vince needs the current calibration for his cross-section measurement.
- We did a current calibration measurement at the end of the run using Faraday Cup #2 and OLO2.
- This data was analyzed a while ago, but I needed to get the calibration into the correct units for Vince.

Table 1: Curent Calibration Constants for nGDH. 10x data is for $0 - 40\mu$A.

Constant	May 2002	Nov 2002	Aug 2003	% Diff
V-to-F U1x	1330.4	1333.3	1338.4	+0.38
V-to-F U3x	4092.4	4101.6	4100.7	-0.02
V-to-F U10x	12446.6	12474.3	12467.5	-0.05
V-to-F D1x	1352.7	1345.1	1335.5	-0.71
V-to-F D3x	4188.5	4165.7	4140.9	-0.59
V-to-F D10x	13122.2	13190.3	13015.1	-0.82

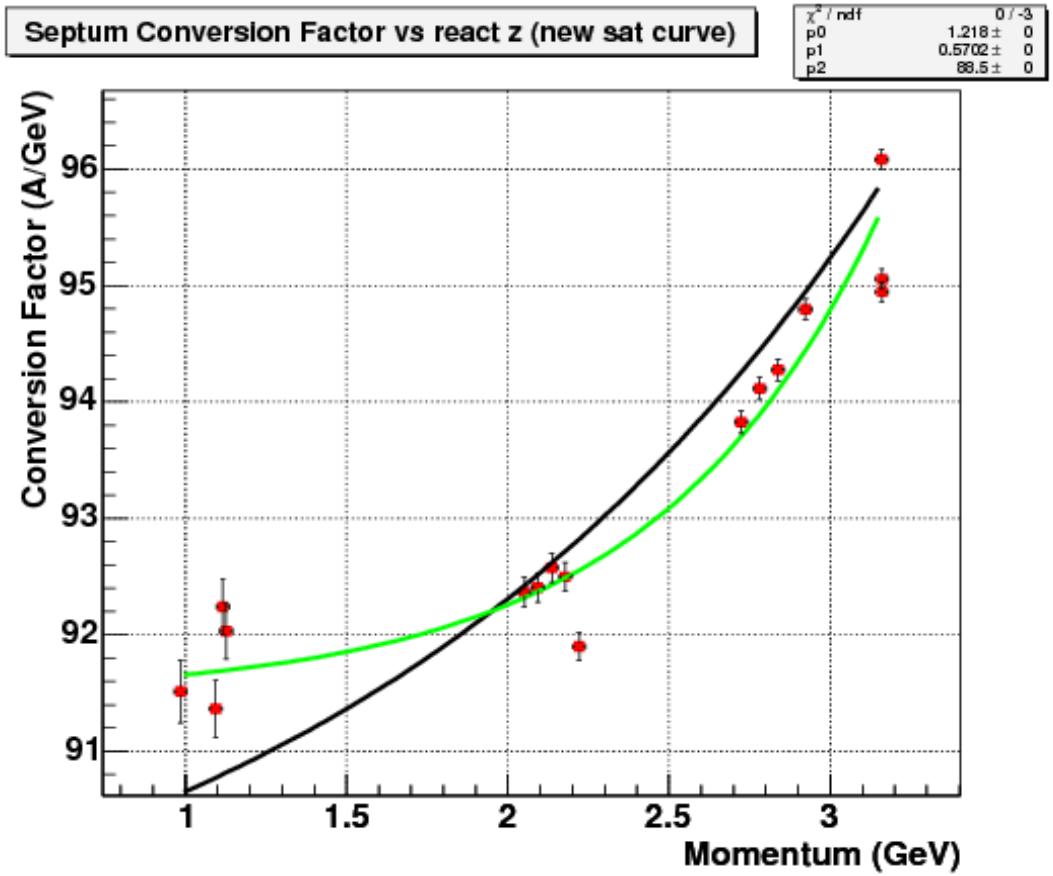
6 Degree Shift Correction

- The 9° shift correction has been shown to correct for septum saturation with good results.
- Vince has asked me to try and use the information about septum saturation from 9° at 6° .
  - At 9° the HRS was at 18°.
  - At 6° the HRS was at 12.5°.
- This is important because Vince sees a 2mm difference between where the collimator is in the survey and where it is in some of his data.

Shift Corrections

- At 6° the current-momentum conversion factor was kept the same.
- Very little C data at 6°.
- Reanalyzed C foil data with offsets the same for all three databases.
- Assume that the $\delta(I/p_{HRS})$ vs. z_{react} relationship is the same.
- Scale the p_{HRS} vs. (I/p_{HRS}) relation from 9°.

6° Saturation curve



- Green line is fit to 6° data.
- Black line is old 9° fit scaled to 6°.