TEC Calibration in 1999

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for the Central Tracker Crews

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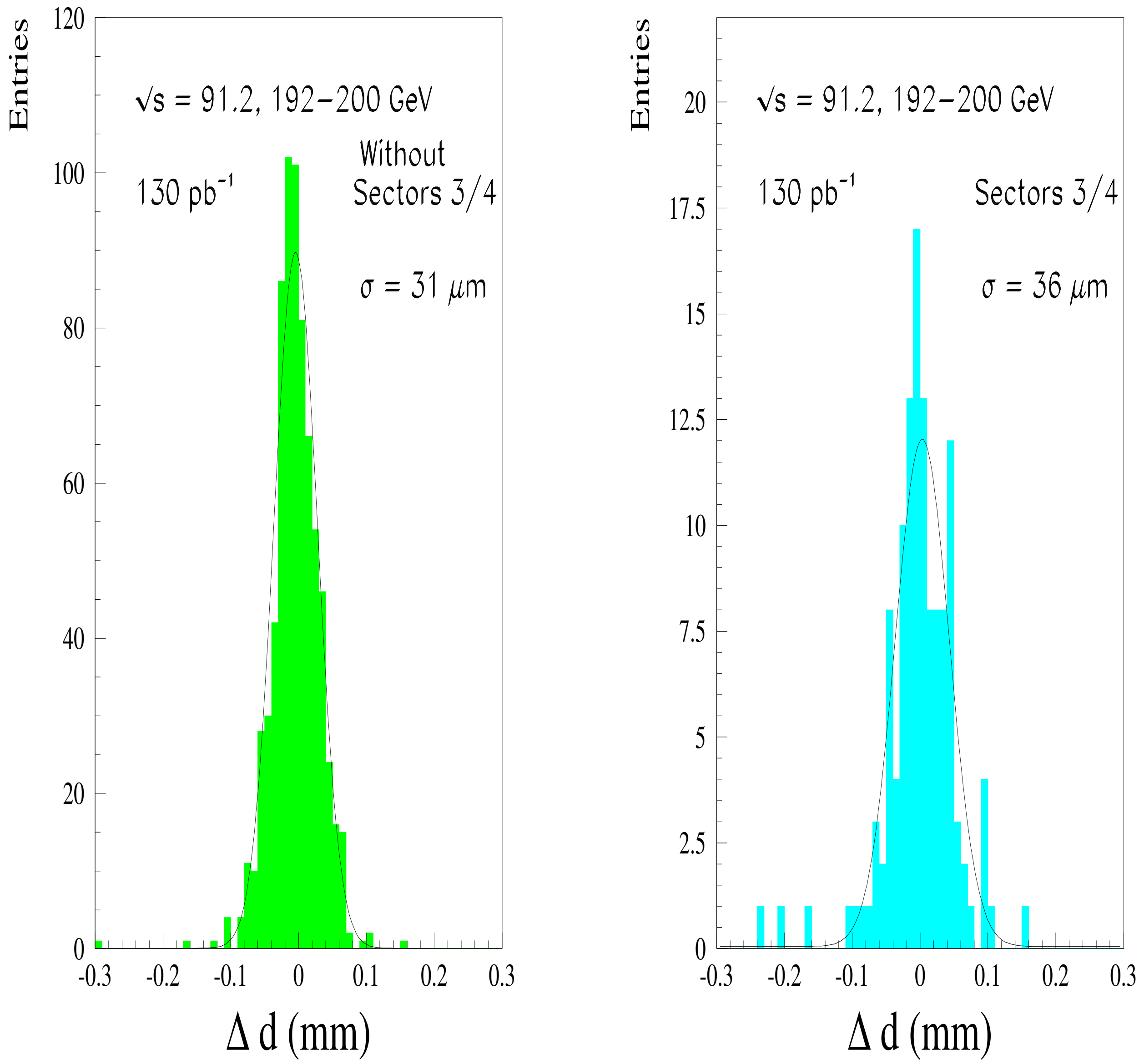
- Outer TEC half-sectors 3/2-4/1 and 20/2-21/1
- Central tracker performance
- Outlook

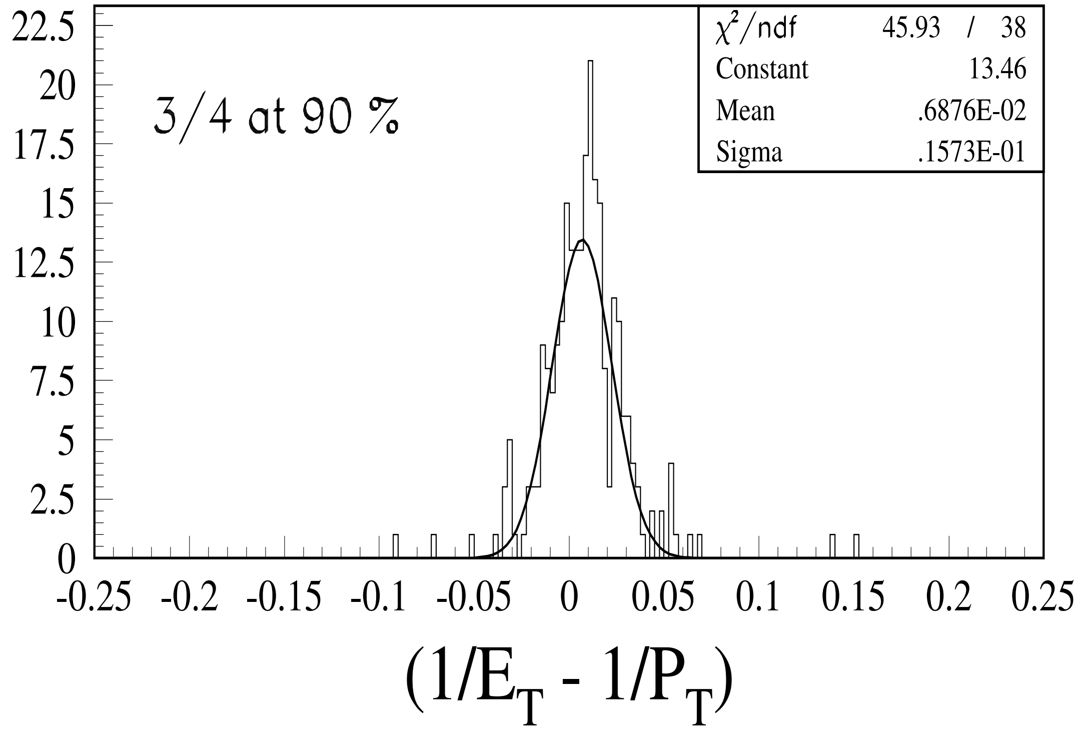
Two pairs of TEC half-sectors have problems after iradiation
A third Z fill requested and obtained in Z3 calibration run (28.9-3.10.1999)

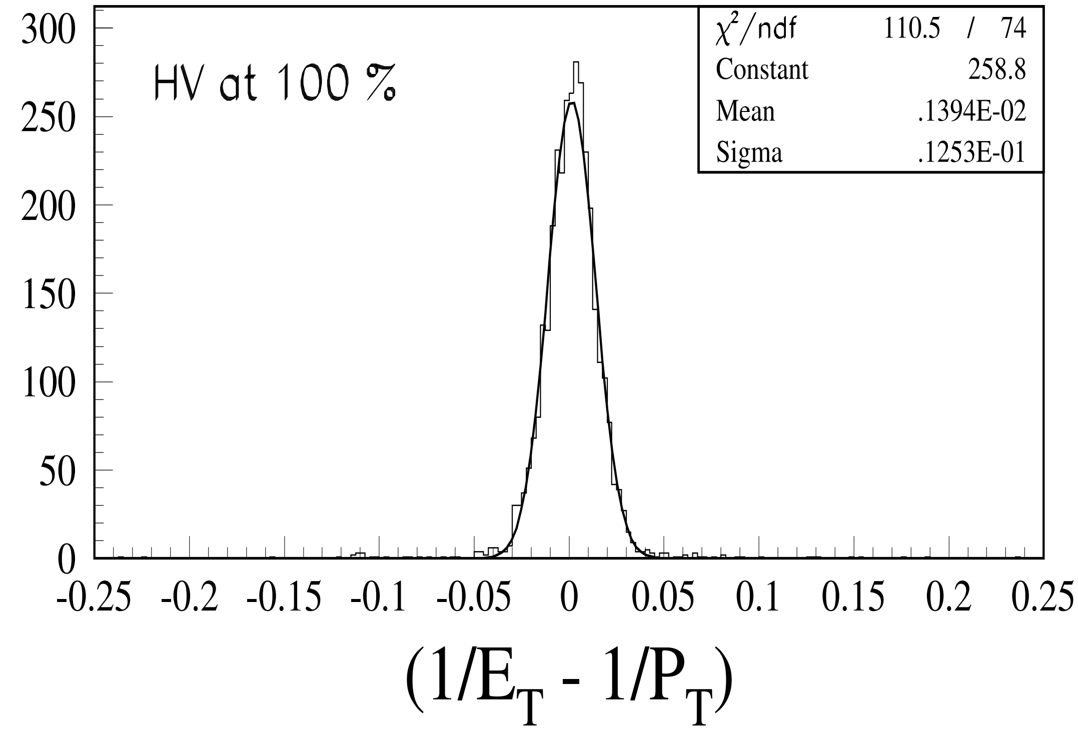
Period	Time	Fills	Lumi $[pb^{-1}]$
3/4	25.5-08.11	5607-6743	214.9 HE
at 90 %			1.4 Z
20/21	07.9-08.11	5607-6743	72.8 HE
at 80 %			0.88 Z

Sectors 3/2 and 4/1 - DCA

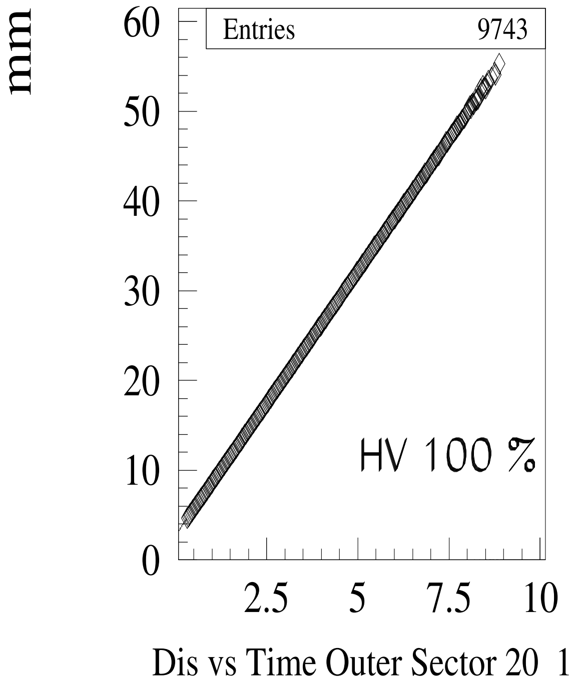


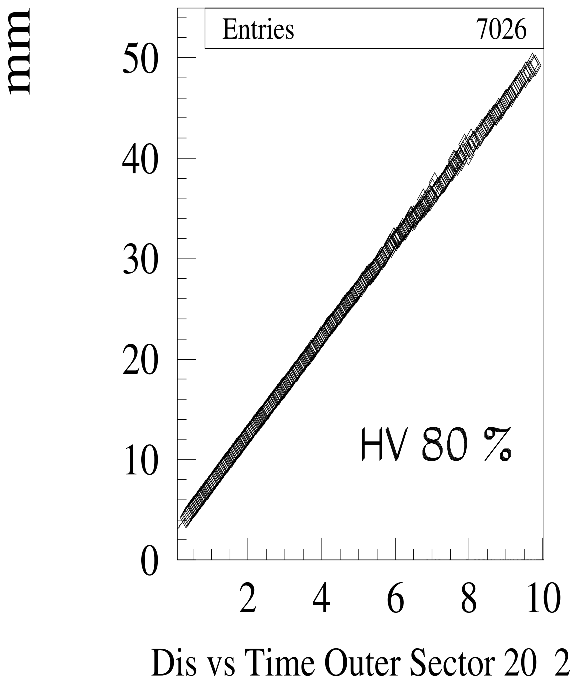
Sectors 3/2 and 4/1 - P_T

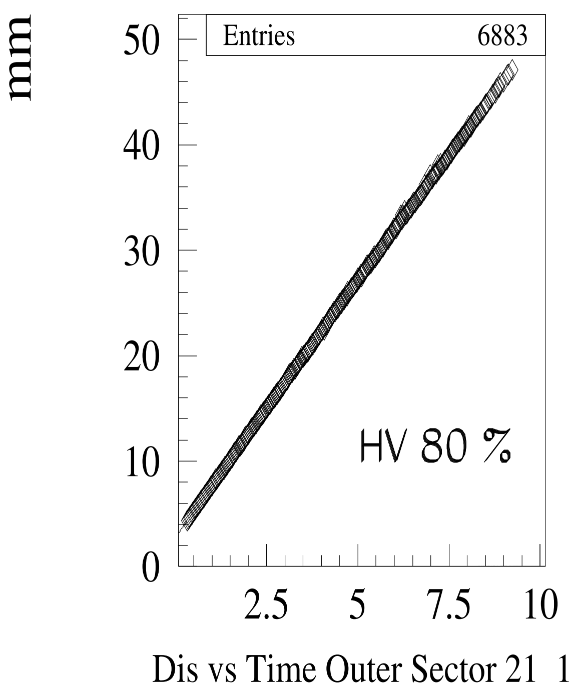


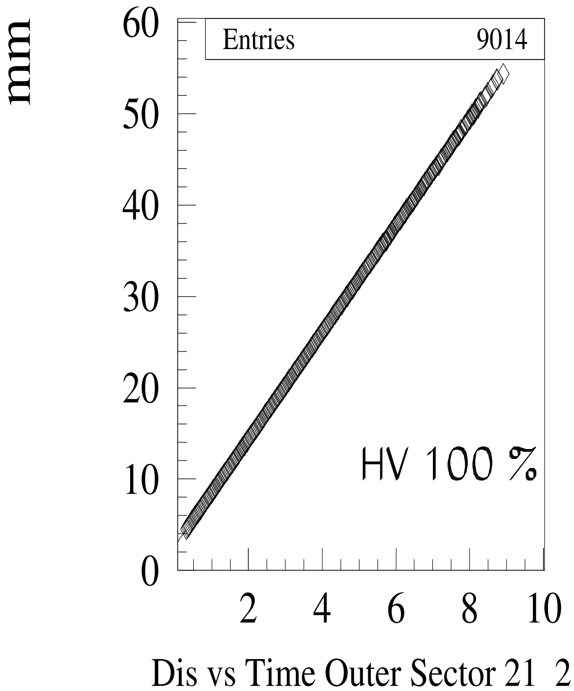


Sectors 20/21 - After 4 Iterations

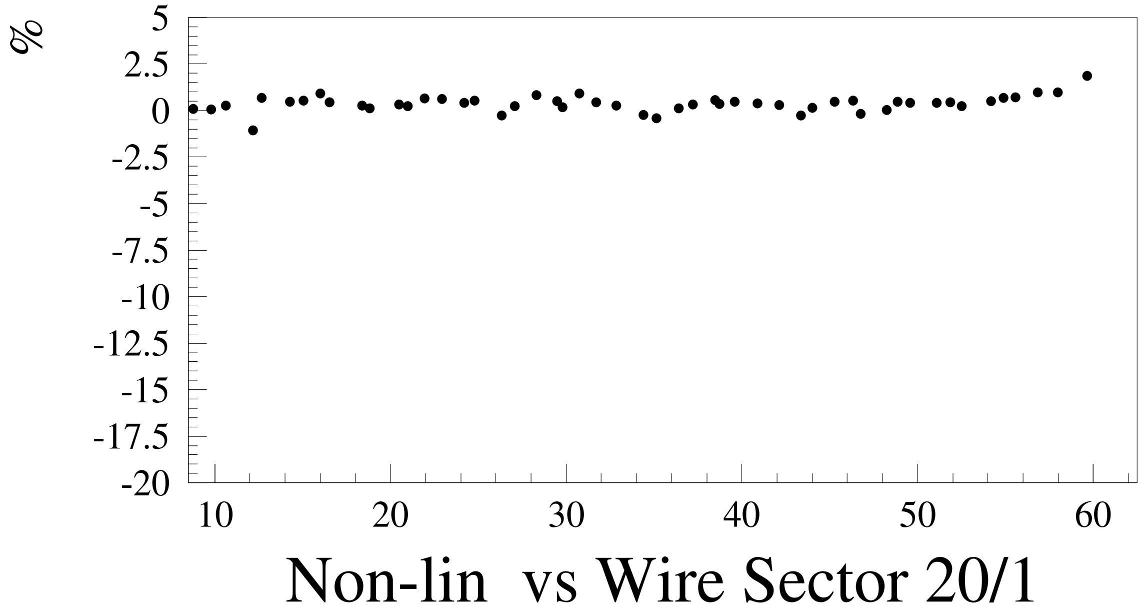


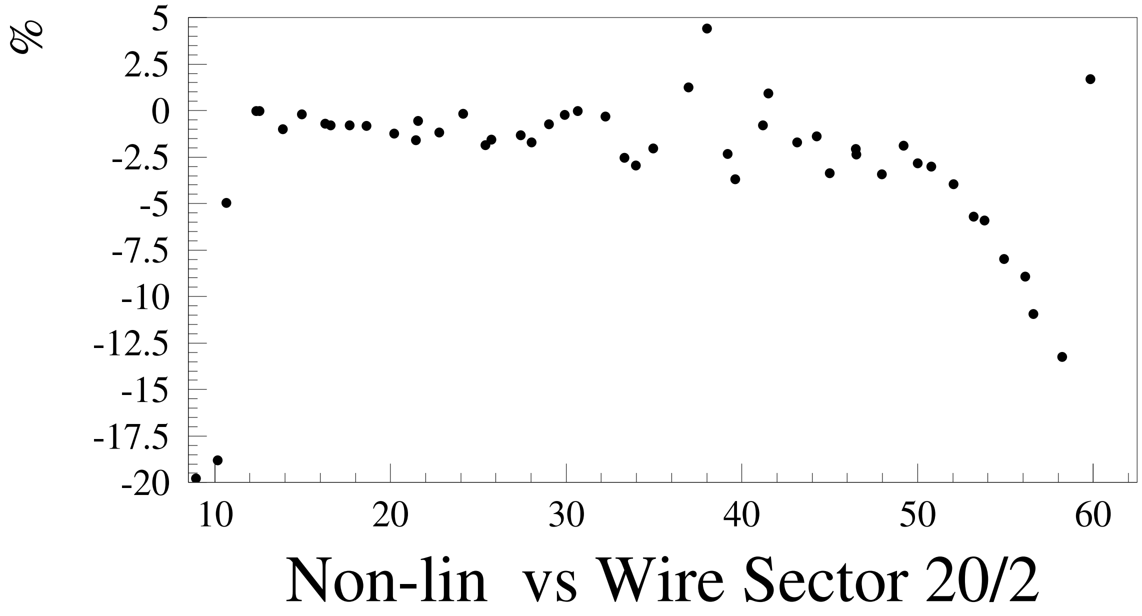




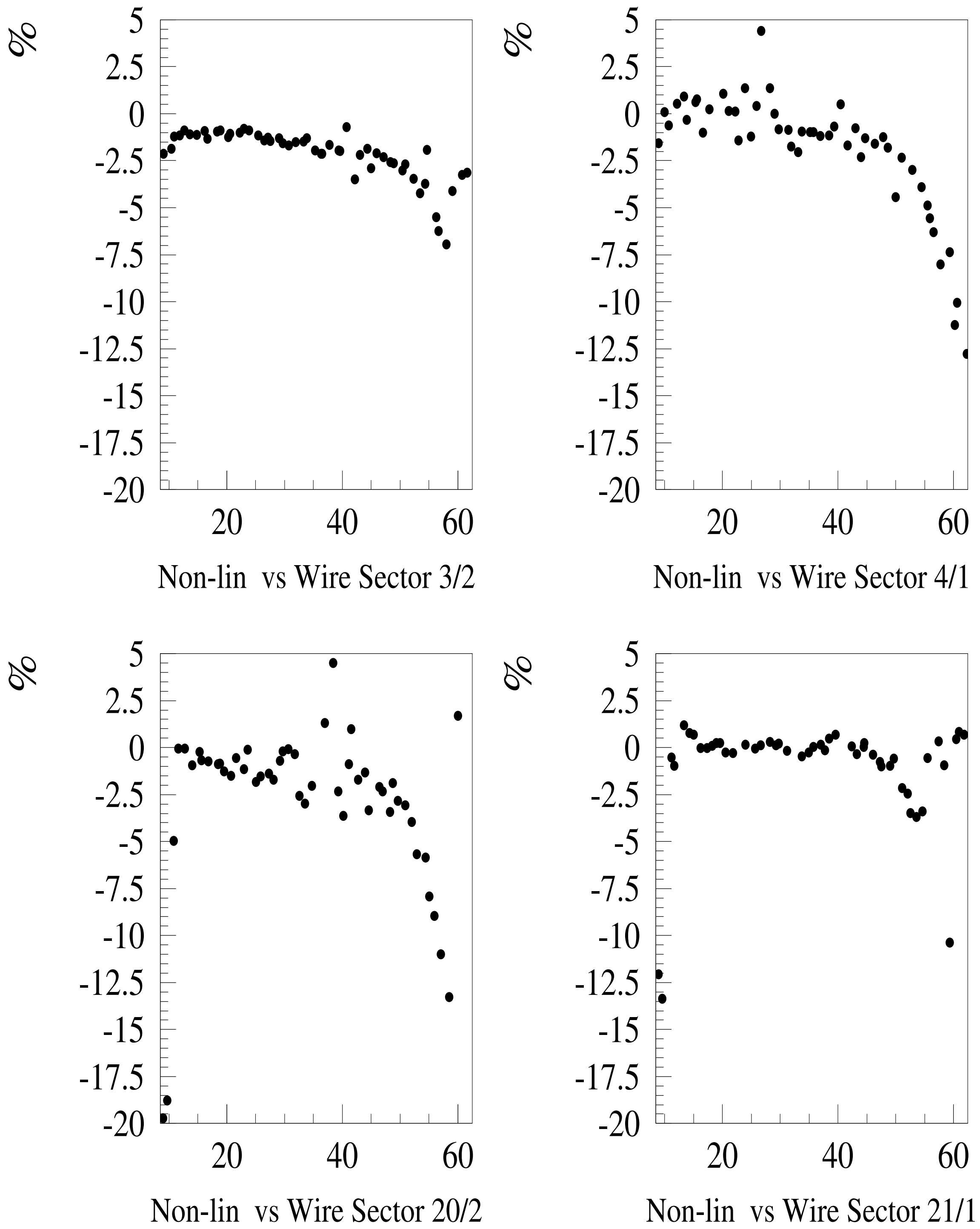


Deviation from linear DDT close to cathode

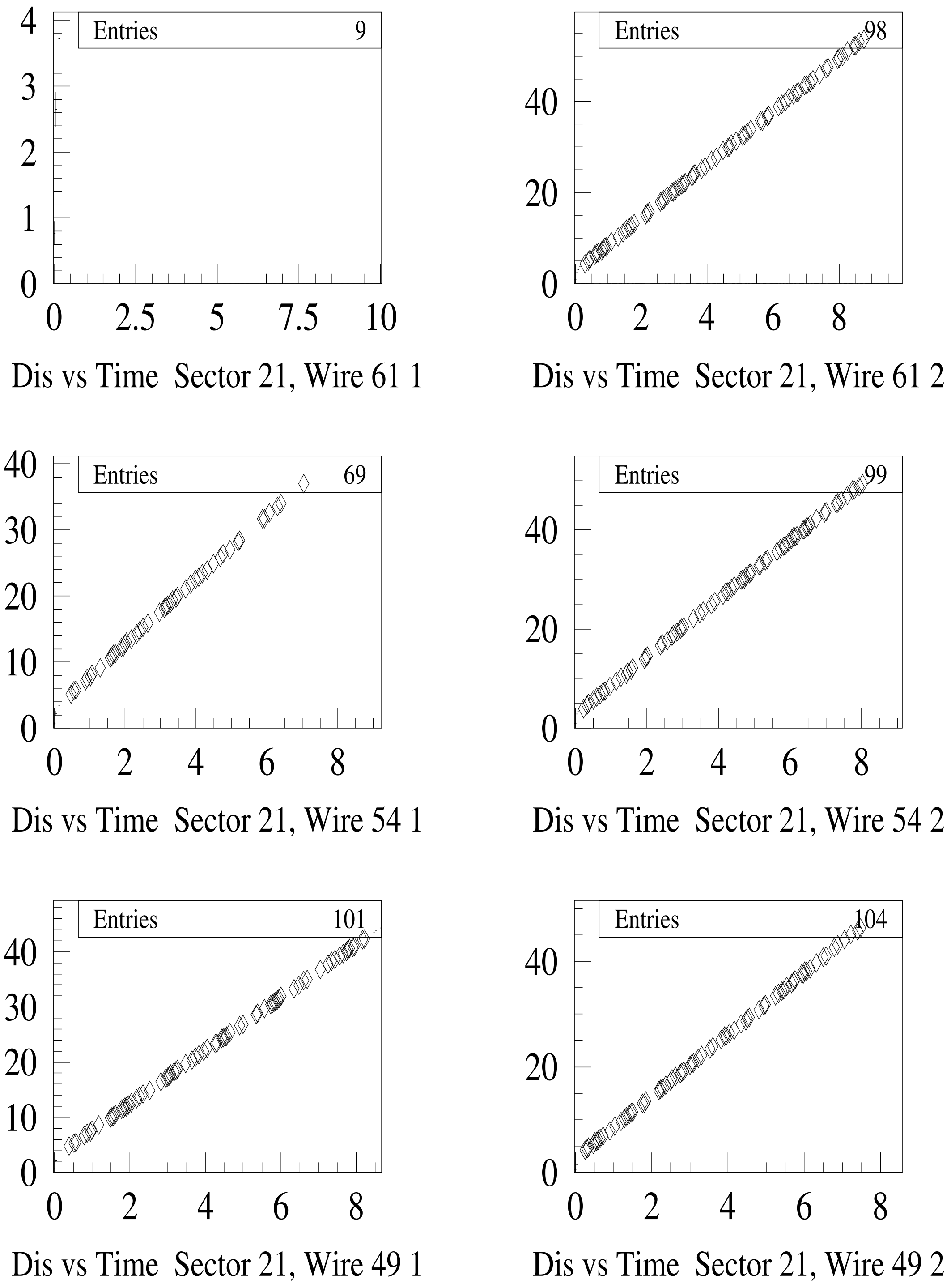




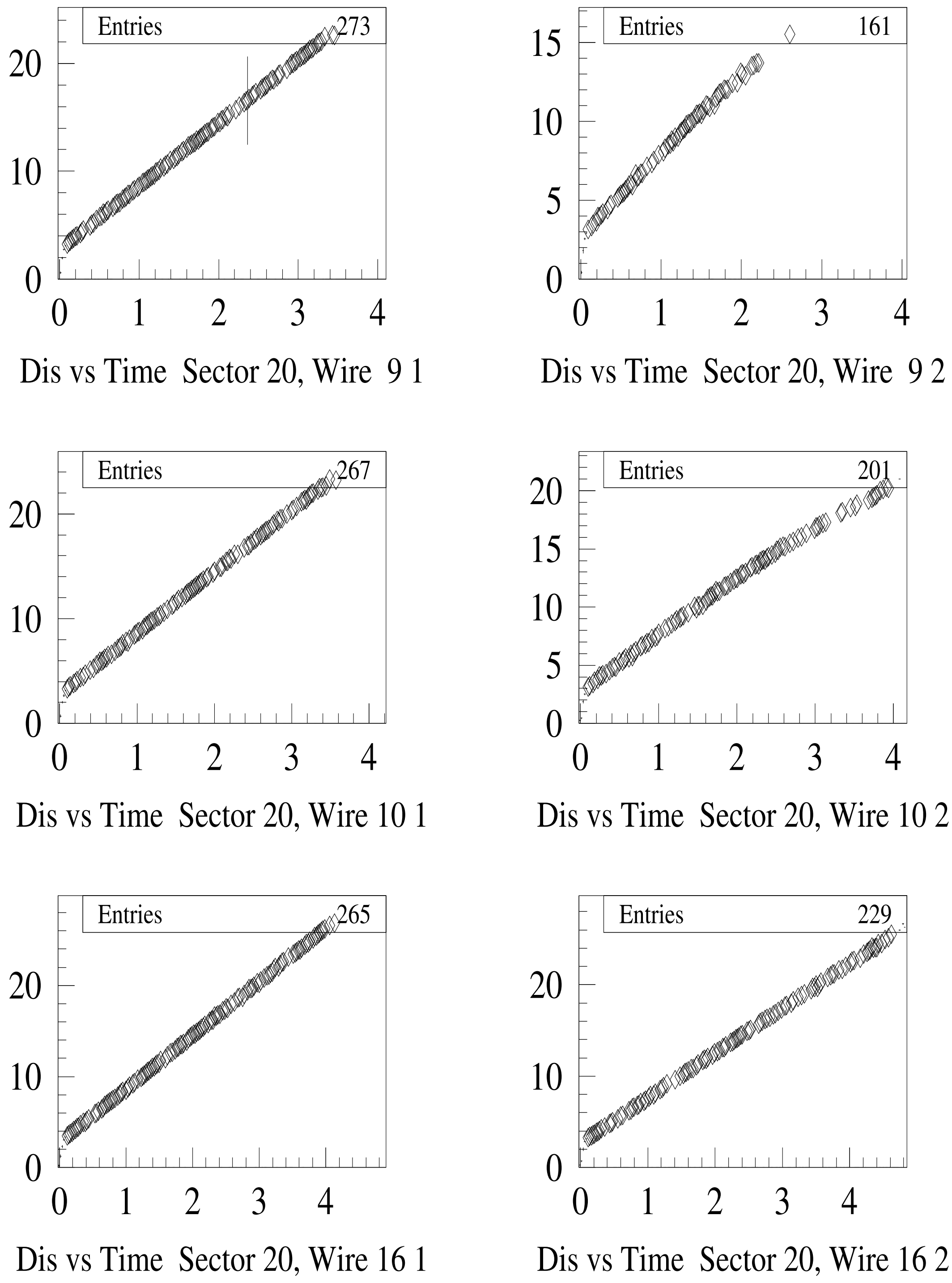
Non-linearity



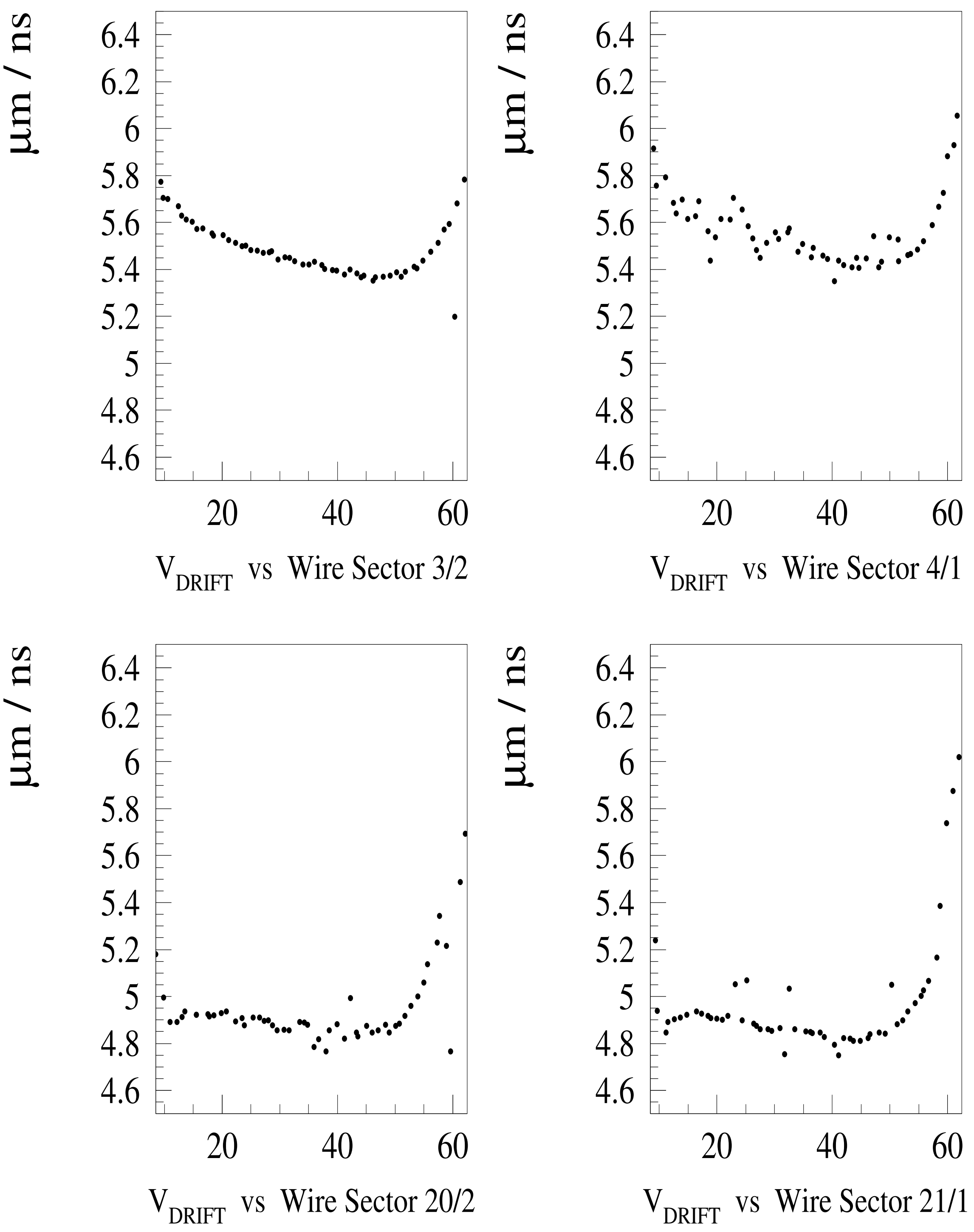
Hits on Tracks in 20/21



Hits on Tracks in 20/21



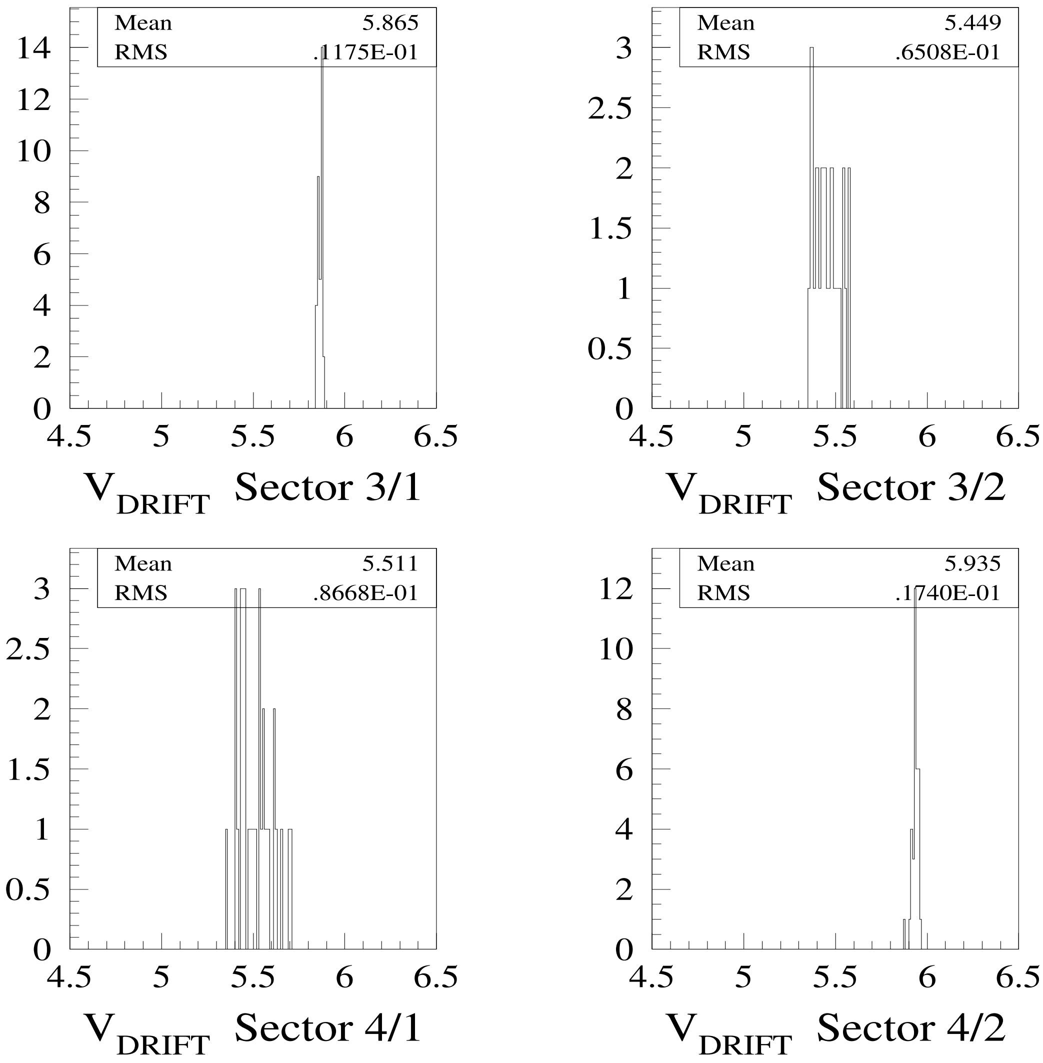
Drift Velocity in 3/4 and 20/21



Drift Velocity in 3/4

Sector 3/4 at:

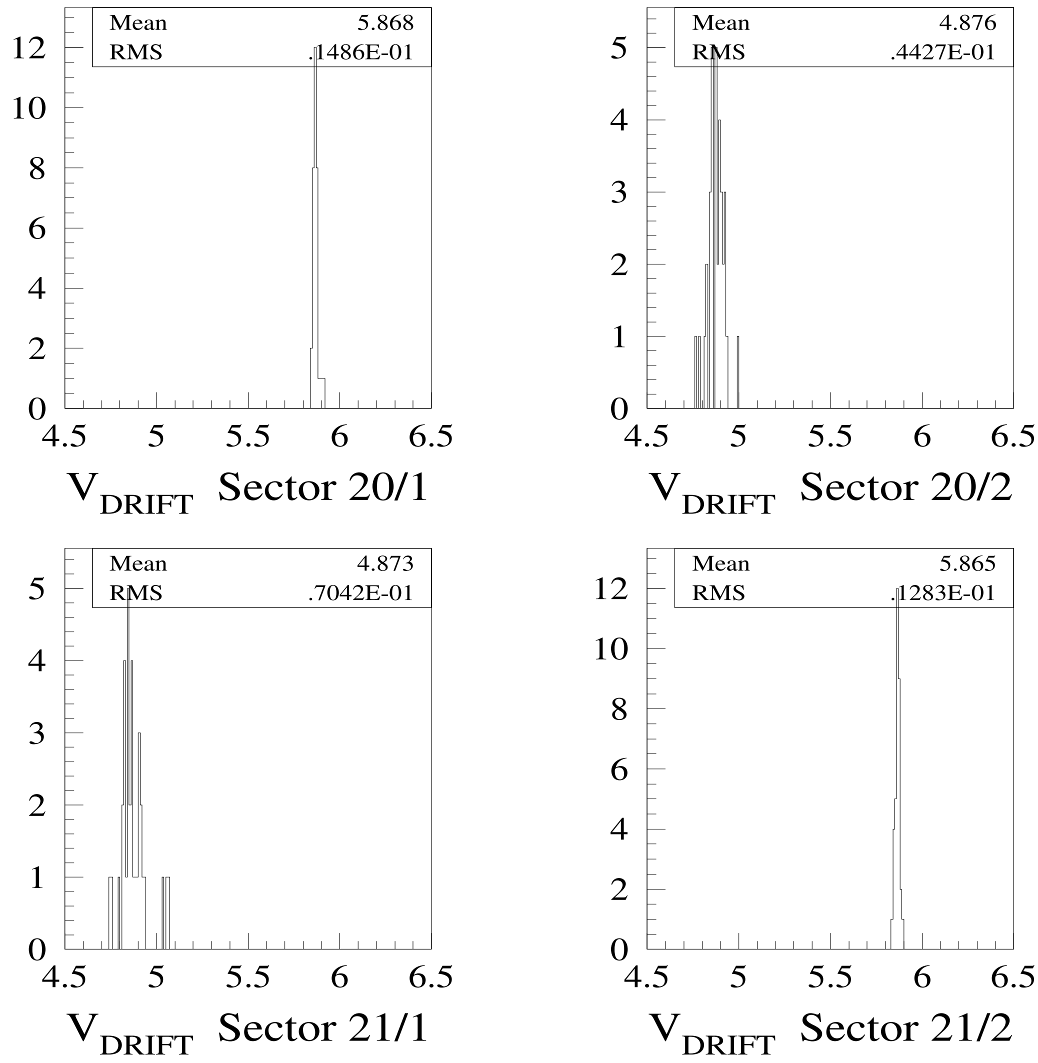
- 94.2 % HV at wire 9
- 89.7 % HV at wire 62
- sector 3/2: V_{DRIFT} = 92.9 % at 10 mm
- sector 4/1: V_{DRIFT} = 92.9 % at 10 mm



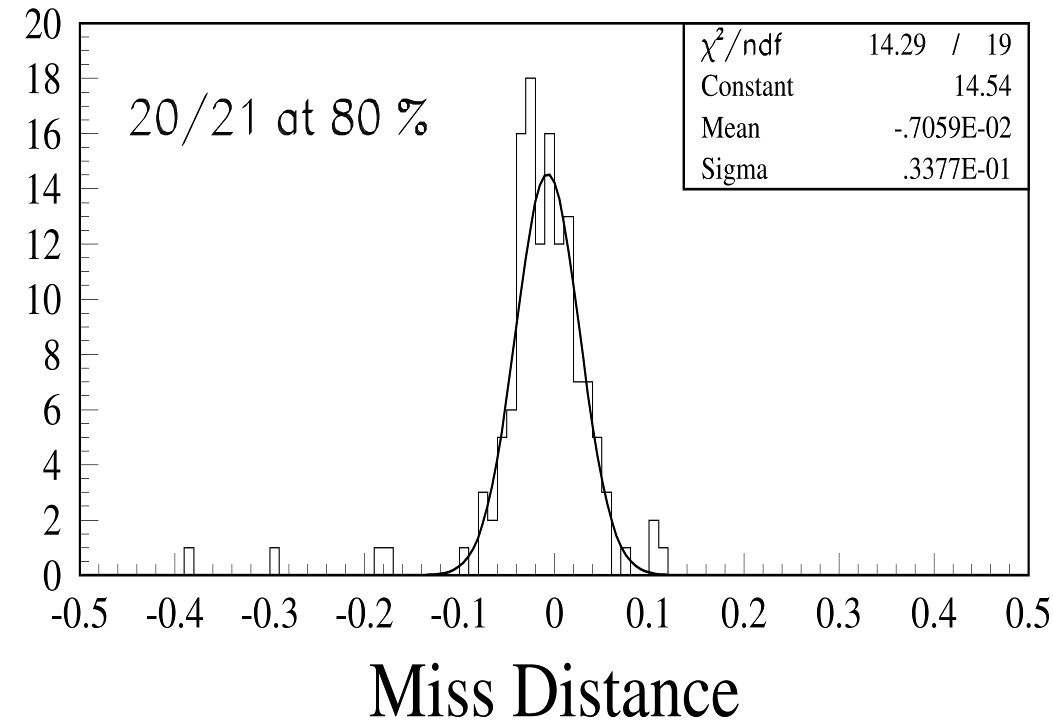
Drift Velocity in 20/21

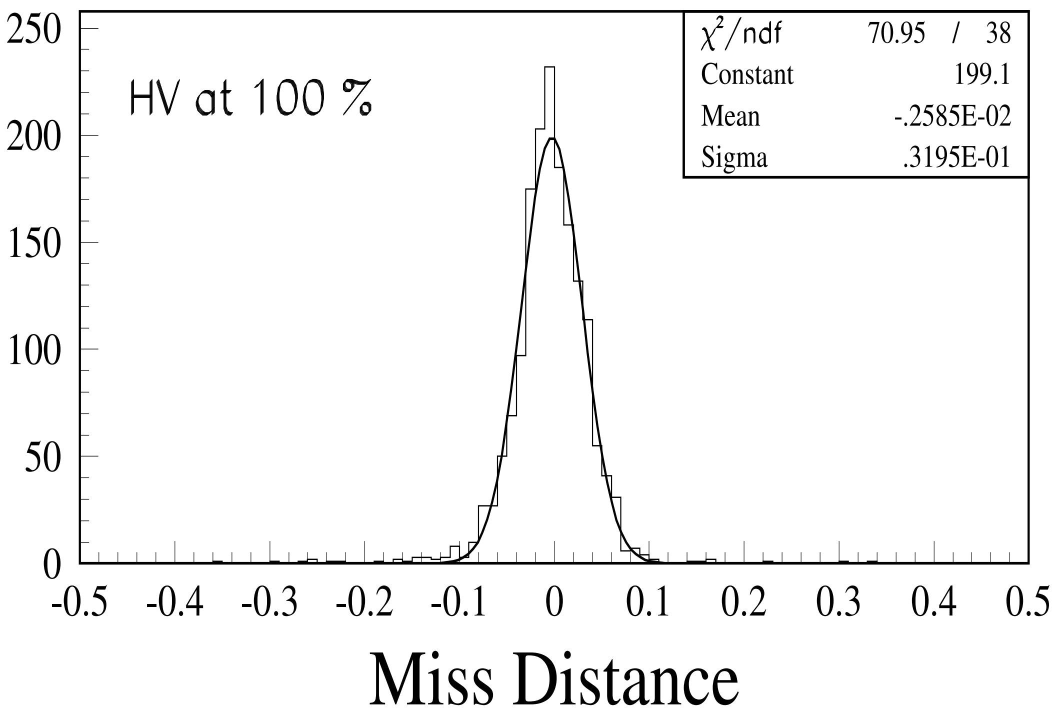
Sector 20/21 at:

- 85.4 % HV at wire 9
- 81.2 % HV at wire 62
- sector 20/2: $V_{DRIFT} = 83.1$ % at 10 mm
- sector 21/1: $V_{DRIFT} = 83.1$ % at 10 mm

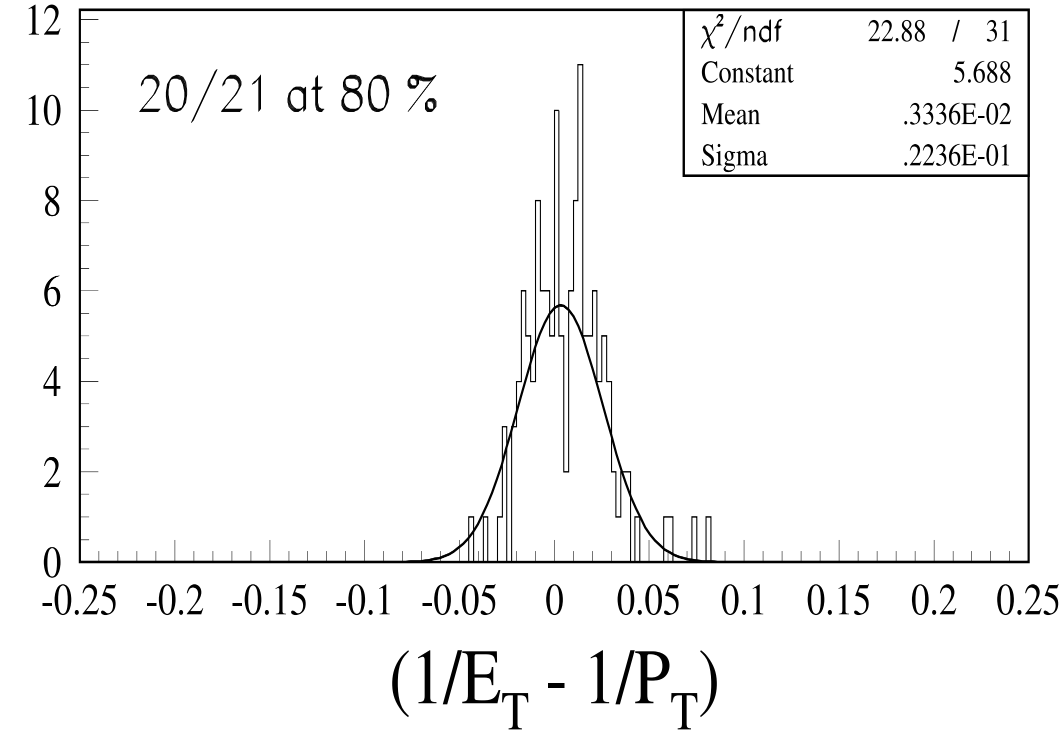


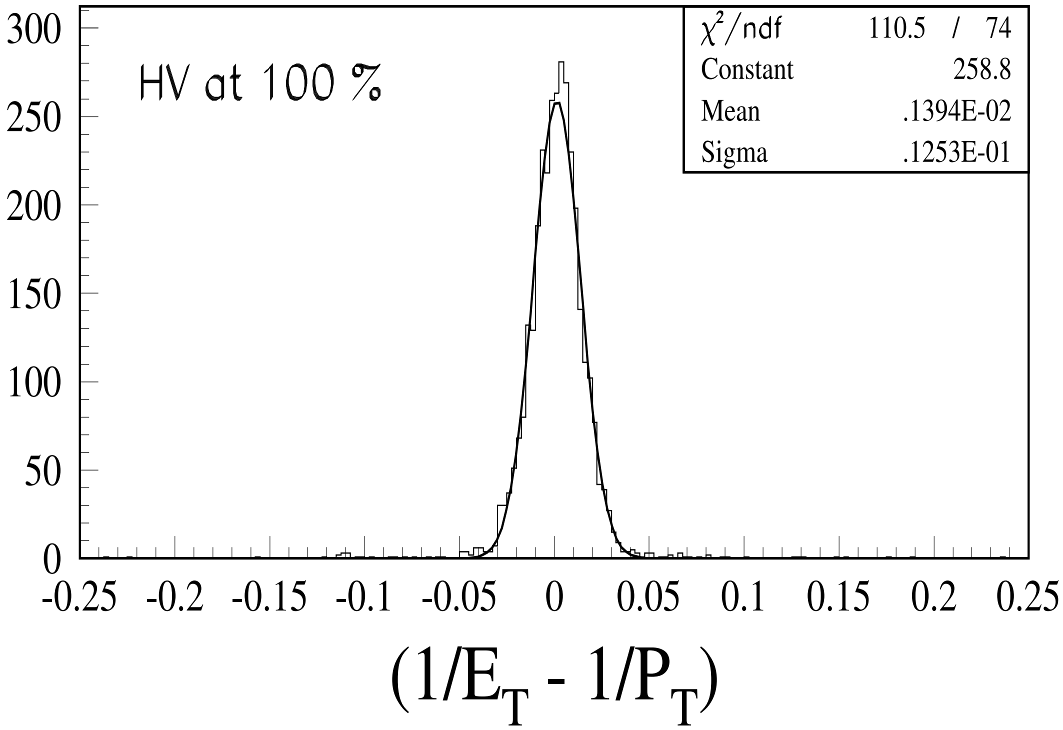
Sectors 20/2 and 21/1 - DCA





Sectors 20/2 and 21/1 - P_T





Outlook

- after calibration - stable central tracker resolution from Z1 to 192-202 GeV
- TEC half-sectors 3/4 and 20/21 are calibrated; DCA resolution very good, p_T resolution good
- substantial non-linear effects observed and understood at the inner and outer areas of the sectors; largest influence on the p_T resolution
- for the rerun at least 4 calibrations are needed:
  1. Z1 till 25.5.1999
  2. Z1 with sectors 3/4 at 90 % till $\sim$ end July
  3. Z2-Z3 calibration with sectors 3/4 at 90 % till 7.9.1999
  4. Z2-Z3 calibration with sectors 3/4 at 90 % and sectors 20/21 at 80 % after 7.9.1999

  work is in progress
- for next year we should improve the field map in sectors 3/4 and 20/21 by optimizing the voltage on the field shape wires