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v0.1
Nov. 5, 2013

# FDC Calibrations

## 1 New Tables

| **FDC/strip_gains**, | |
|---|---|
| $1 - 10368$ | gain correction factor |

| **FDC/strip_timing_offsets** | |
|---|---|
| $1 - 10368$ | timing offset (ns?) |

| **FDC/wire_timing_offsets** | |
|---|---|
| $1 - 2304$ | timing offset (ns?) |

| **FDC/alignment** | |
|---|---|
| ... | alignment constants |

# 2 Old Tables

| **FDC/fdc_parms** | | |
|---|---|---|
| FDC_DRIFT_SPEED | .0055 | electron drift velocity |
| FDC_WIRE_DEAD_ZONE_RADIUS | 3.5 | dead wire radius |
| FDC_STRIP_DEAD_ZONE_RADIUS | 5. | other dead wire radius |
| FDC_ACTIVE_AREA_OUTER_RADIUS | 48.5 | |
| FDC_ANODE_CATHODE_SPACING | 0.5 | |
| FDC_TWO_HIT_RESOL | 25. | |
| FDC_WIRES_PER_PLANE | 96 | |
| FDC_WIRE_SPACING | 1. | |
| FDC_STRIPS_PER_PLANE | 192 | |
| FDC_STRIP_SPACING | 0.5 | |
| FDC_STRIP_GAP | 0.1 | |
| FDC_MAX_HITS | 100 | |
| FDC_K2 | 1.15 | |
| FDC_STRIP_NODES | 3 | |
| FDC_THRESH_KEV | 1. | threshold in keV |
| FDC_THRESH_STRIPS | 0.001 | threshold in fC |
| FDC_ELECTRON_CHARGE | 1.6022e-4 | electron charge in fC |
| FDC_DIFFUSION_COEFF | 1.1e-6 | diffiusion speed $cm^2/s \rightarrow$ 200 microns at 1 cm |
| FDC_TDRIFT_SIGMA | 1.0e-9 | The error on the drift time in the FDC. |
| FDC_CATHODE_SIGMA | 150. | The error in the distance along the wire as measu |
| FDC_THRESHOLD_FACTOR | 4. | number of sigmas above pedestal for cutting FD |
| FDC_PED_NOISE | 0.2 | The FDC pedestal noise is used to smear the cat values such that the position along the wire has specified by FDC_CATHODE_SIGMA. |
| FDC_TIME_WINDOW | 1000. | Time window for acceptance of FDC hits units i |
| FDC_HIT_DROP_FRACTION | 0. | Fraction of FDC hits to randomly drop |

| **FDC/fdc_drift2** | |
|---|---|
| $1 \times 140$ | parameterized drift function |

| **FDC/strip_calib** — 192 rows | |
|---|---|
| qru | multiplicative gain constants for strips? |
| qrv | why only in libraries/HDDM/DEventSourceHDDM.cc? |

| **FDC/drift_smear_parms** — 26 rows | |
|---|---|
| h0 | |
| m0 | |
| s0 | |
| h1 | |
| m1 | is this used? |
| s1 | |
| h2 | |
| m2 | |
| s2 | |

| **FDC/lorentz_deflections** — 840 rows | |
|---|---|
| x | |
| z | |
| bx | Parameterization of lorentz deflections |
| bz | |
| nx | |
| nz | |

Loaded in MC or data, but not used?

| **FDC/lorentz_deflectionsMarch2007** — 588 rows (deprecated) | |
|---|---|
| x | |
| z | |
| bx | |
| bz | |
| nx | |
| nz | |