

CDC Calibrations

1 New Tables

CDC/timing_offsets	
1 – 3522	timing offset, t_0 (ns)

CDC/wire_gains	
1 – 3522	gain correction factor

CDC/wire_alignment	
3522 rows	
dxu dyu	upstream wire end displacement
dxd dyd	downstream wire end displacement

CDC/alignment	
CDC_ALIGN_UPSTREAM_DZ	upstream endplate z displacement
CDC_ALIGN_DOWNSTREAM_DZ	downstream endplate z displacement
CDC_SAG_RADIUS	

CDC/cdc_gas_drift	
41 rows	
1 – 100	parameterized time-to-distance functions

CDC/drift_parms	
CDC_DRIFT_FUNCTION	index for which row of cdc_gas_drift should be used

CDC/drift_func_parms	
CDC_DRIFT_A CDC_DRIFT_B CDC_DRIFT_C CDC_DRIFT_D	Transverse drift function parameters
CDC_DRIFT_A_L CDC_DRIFT_B_L CDC_DRIFT_C_L CDC_DRIFT_D_L	Longitudinal drift function parameters

Used in HDGeant/hitCDC.c

CDC/fit_parms	
CDC_VARIANCE_A CDC_VARIANCE_B CDC_VARIANCE_C	

Used in Kalman fitter

2 Existing Tables

CDC/cdc_parms		
CDC_TDRIFT_SIGMA	$2.818E^{-9}$	Error on the drift time in the CDC.
CDC_TIME_WINDOW	1000.	The time window for which CDC hits are accumulated.
CDC_PEDESTAL_SIGMA	50.	The error in the energy deposition measurement in the CDC due to pedestal noise, fC
CDC_THRESHOLD_FACTOR	4.	number of sigmas above pedestal for cutting CDC hits
CDC_DRIFT_SPEED	0.0055	CDC drit speed unit?
CDC_TWO_HIT_RESOL	25.	time window for two hit resolution, ns
CDC_MAX_HITS	1000.	number of hit per readout channel
CDC_THRESH_KEV	1.	threshold applied, keV
CDC_STRAW_RADIUS	0.8	straw radius, cm

CDC/cdc_drift	
1×400	parameterized time-to-distance function (not currently used?)