

Parameter guide

Parameter name	Units	Standard value	description
r1	mm	70.00	Radius of inner-inner (sub-super) fiber-layer
r2	mm	70.86	Radius of outer-inner fiber-layer
r3	mm	98.00	Radius of inner-outer fiber-layer
r4	mm	98.86	Radius of outer-outer fiber-layer
IL1_min	#	0	Fiber number of leftmost fiber of inner-inner fiber-layer
IL1_max	#	197	Fiber number of rightmost fiber of inner-inner fiber-layer
IL2_min	#	200	Fiber number of leftmost fiber of outer-inner fiber-layer
IL2_max	#	398	Fiber number of rightmost fiber of outer-inner fiber-layer
IL3_min	#	400	Fiber number of leftmost fiber of inner-outer fiber-layer
IL3_max	#	597	Fiber number of rightmost fiber of inner-outer fiber-layer
IL4_min	#	600	Fiber number of leftmost fiber of outer-outer fiber-layer
IL4_max	#	798	Fiber number of rightmost fiber of outer-outer fiber-layer
last_fiber_position	mm	118.8	the position of the outermost fiber at the inner sub-layers of both superlayers from the vertical central axis
fiber_diameter	mm	1	The diameter of a single Kuraray SCSF-78M plastic scintillating fiber.
inter_fiber_dist	mm	1.2	The distance between the central axis going through two mounted fibers
layer_offset	mm	0.6	The horizontal distance between two neighboring fibres, where one is positioned in the upper sublayer and the other in the lower sublayer of a single super-layer
edge	#	700	The number of simultaneously active fibres indicating the arrival of the particle injection. This number sets the initial time cut on the total data array.
N_fibers	#	798	Note: Real amount of fibers are 794, but no fibers with index 198,199, 399, 598 or 599.
Time_resolution	ns	5	The time resolution of the electronic readout system, currently at 5ns.
max_travel_time	ns	5	The max traveling time for a particle to traverse the detector, note that this one will have to be specified for each particle
Track_radius	mm	1.6	The radius around a point for which to search for clustering
pion_travel_time	m/ns	0.1	The traveling velocity of a pion
edge_buffer	#	0	A parameter to be set when some data before the rising edge needs to be acquired.
start_time	ns	2000	The time after the rising edge of which to begin sampling the tail data
stop_time	ns	20000	The time after the rising edge of which to stop sampling tail data
min_time	ns	0	minimum sampling time
max_time	ns	30000	maximum sampling time