

MATRIX TOOLS 2.0

Project Outline

MATRIX TOOL FRAMEWORK

- Abstract data structure
- Plug-in based data import
 - HDL simulation data
 - Physical data
- Data Visualization
- Data Analysis
 - Physical analysis
 - Cross checks
- GUI interface

DATA STRUCTURE

Structure Name: **HIT**

X	UInt_32	Horizontal coordinate
Y	UInt_32	Vertical coordinate
Q	UInt_32	Charge collected
ToT	UInt_64	Time over Threshold
TxT	UInt_64	Threshold crossing Time

DATA STRUCTURE

Structure Name: **CLUSTER**

Hidxs	vector<UInt_32>	Indexes of hit forming cluster
Xcm	double	Horizontal center of mass
Ycm	double	Vertical center of mass
Xspread	UInt_32	Horizontal pixel spread
Yspread	UInt_32	Threshold crossing Time
MeanX	float	Arithmetic Hor. mean
MeanY	float	Arithmetic Ver. mean

DATA STRUCTURE

Structure Name: **EVENT**

IDX	UInt_32	Event Index
TS	UInt_32	Time Stamp
LongTS	UInt_64	Long Time Stamp
HITS	vector<HIT>	Hits vector
CLUSTERS	vector<CLUSTER>	Cluster vector
AvDistance	float	Average Cluster distance

DATA STRUCTURE

Structure Name: **MATRIX_DATA**

IDX	UInt_32	Data set index
TimeUnit	char[2]	Time unit of measure
DistUnit	char[2]	Distance unit of measure
EVENTS	vector<EVENT>	Event vector
isClusterSet	bool	cluster analysis flag

DATA IMPORT

- Plug-in for each data format

