Geant4 simulation on scintillator bars array (Setup as Dec2014 beam test in Notre Dame)

Junhui LIAO, University of Zürich
(Based in Fermilab since Mar 2014)

October 10, 2014

Outline

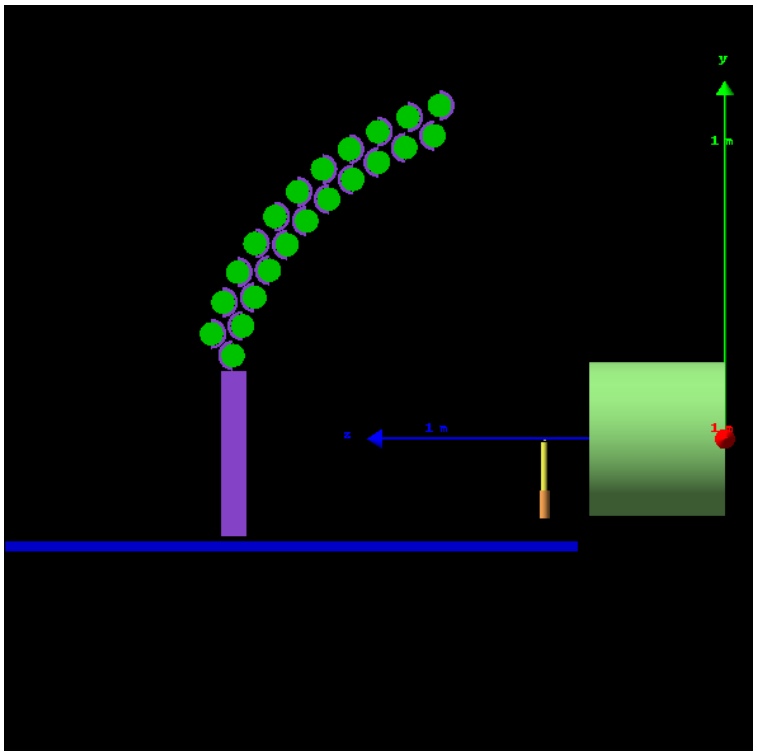
1 Introduction on setup

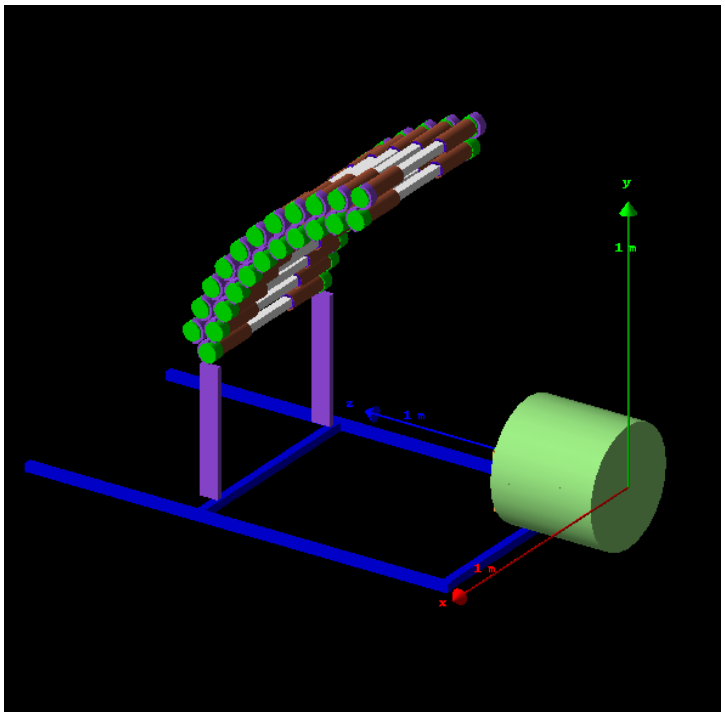
2 Preliminary results of “SDD + 22 scintillator bars ”

3 Hit position analysis

Setup of 22 scintillator bars

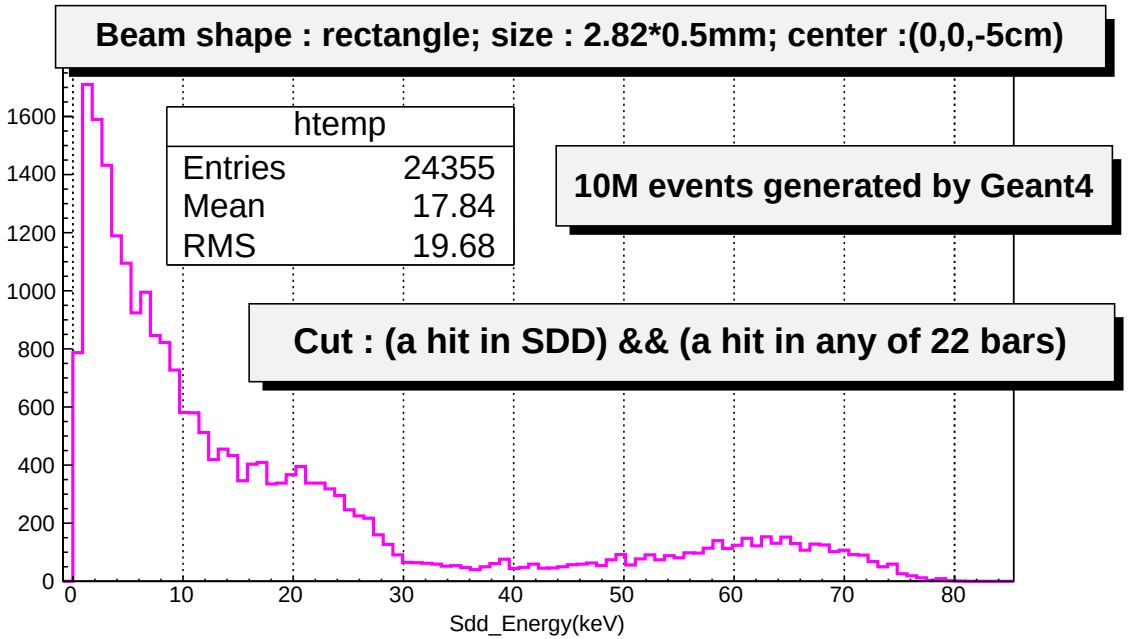
Scintillator bars , view from different angles.



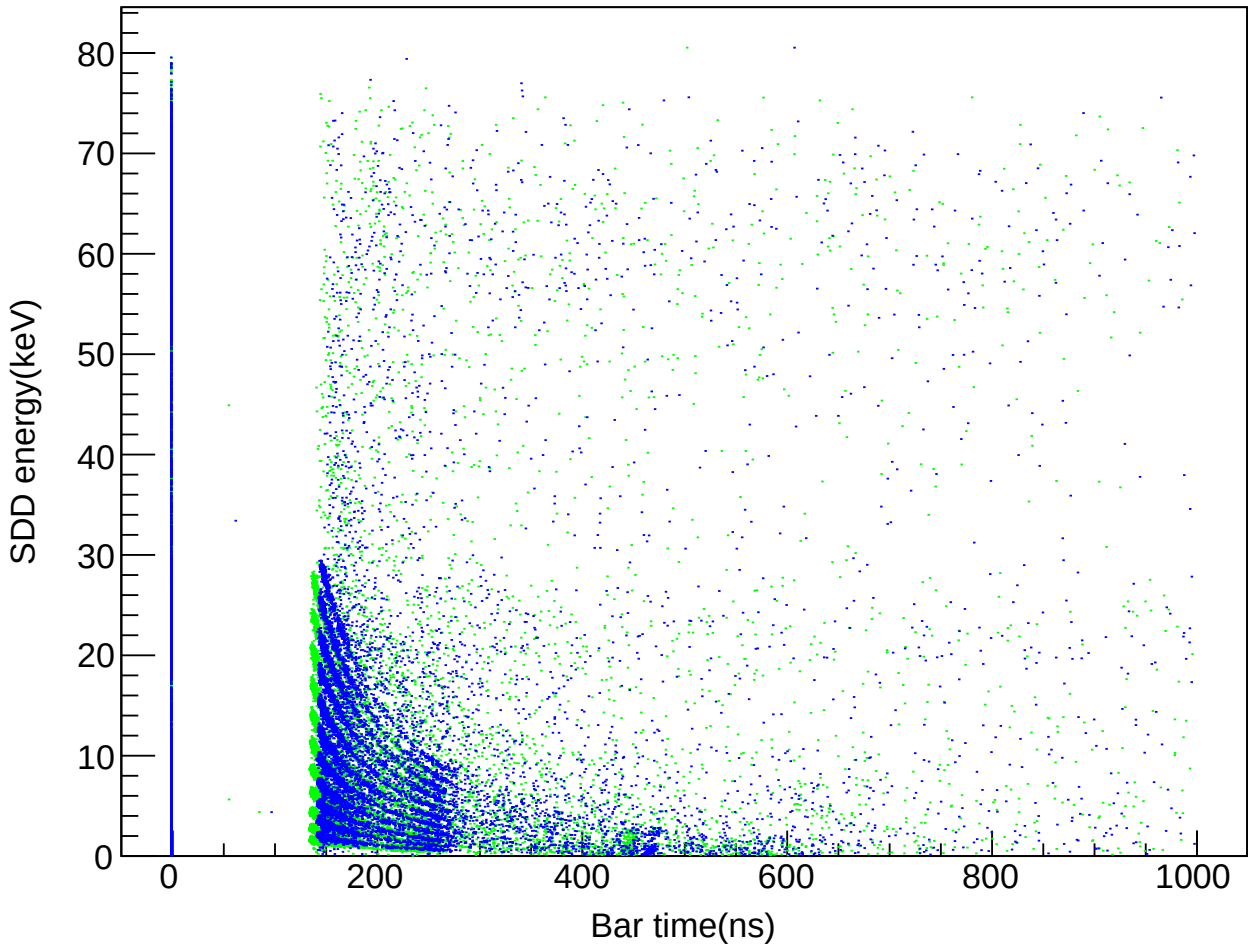


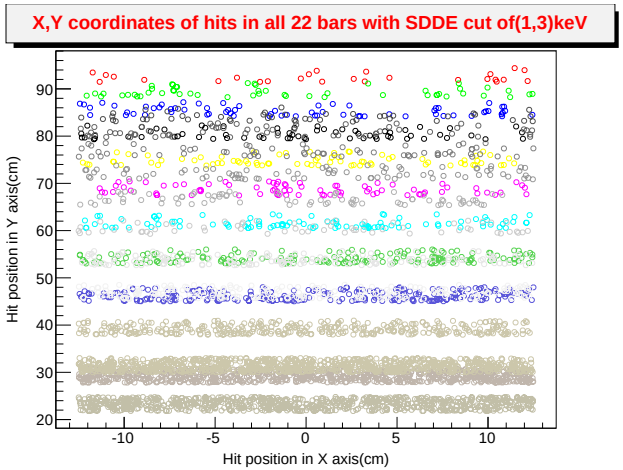
Deposited(recoiled) energies in SDD with a cut

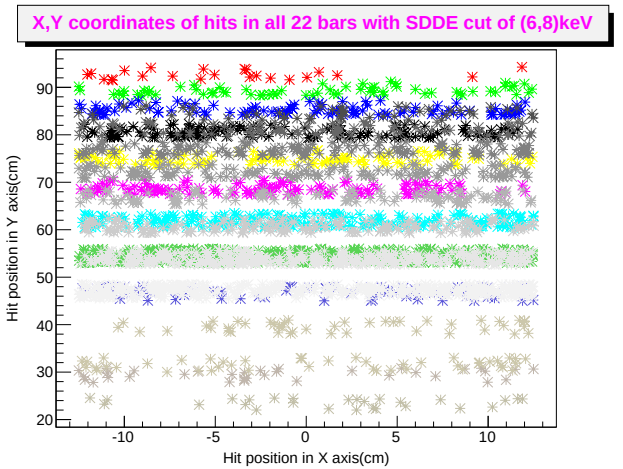
Beam information : shape is rectangle; size : same as the one view from the direction of incident neutron.
Cut : a hit in SDD and any of 22 bars.

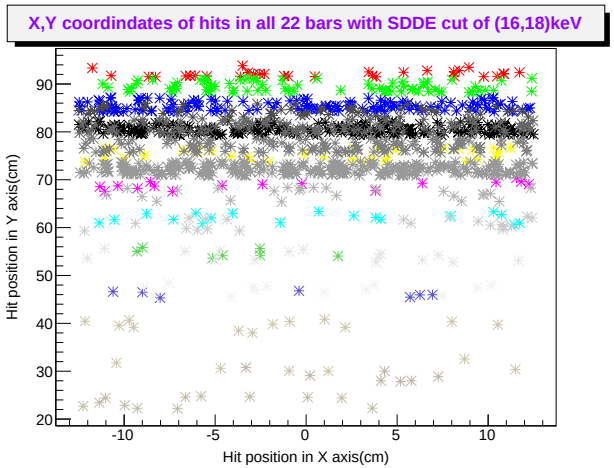


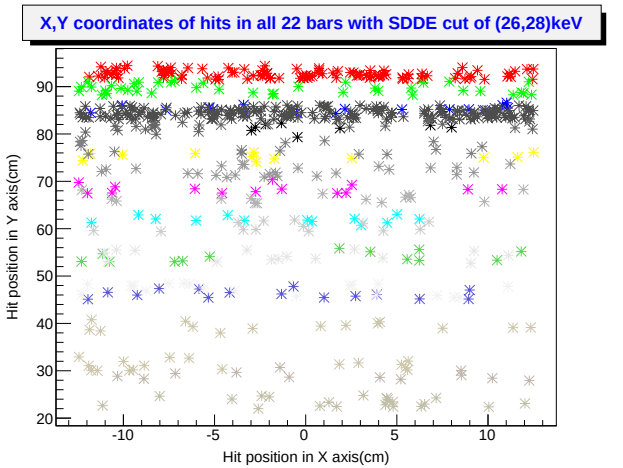
All bars : SDD deposited energy vs time hit in Bars




X,Y coordinates of hits in all 22 bars with SDDE cut of(1,3)keV
Hit position in Y axis(cm)
Hit position in X axis(cm)


X,Y coordinates of hits in all 22 bars with SDDE cut of (6,8)keV
Hit position in Y axis(cm)
Hit position in X axis(cm)


X,Y coordindates of hits in all 22 bars with SDDE cut of (16,18)keV
Hit position in Y axis(cm)
Hit position in X axis(cm)


X,Y coordinates of hits in all 22 bars with SDDE cut of (26,28)keV
Hit position in Y axis(cm)
Hit position in X axis(cm)