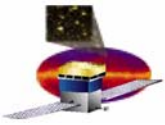


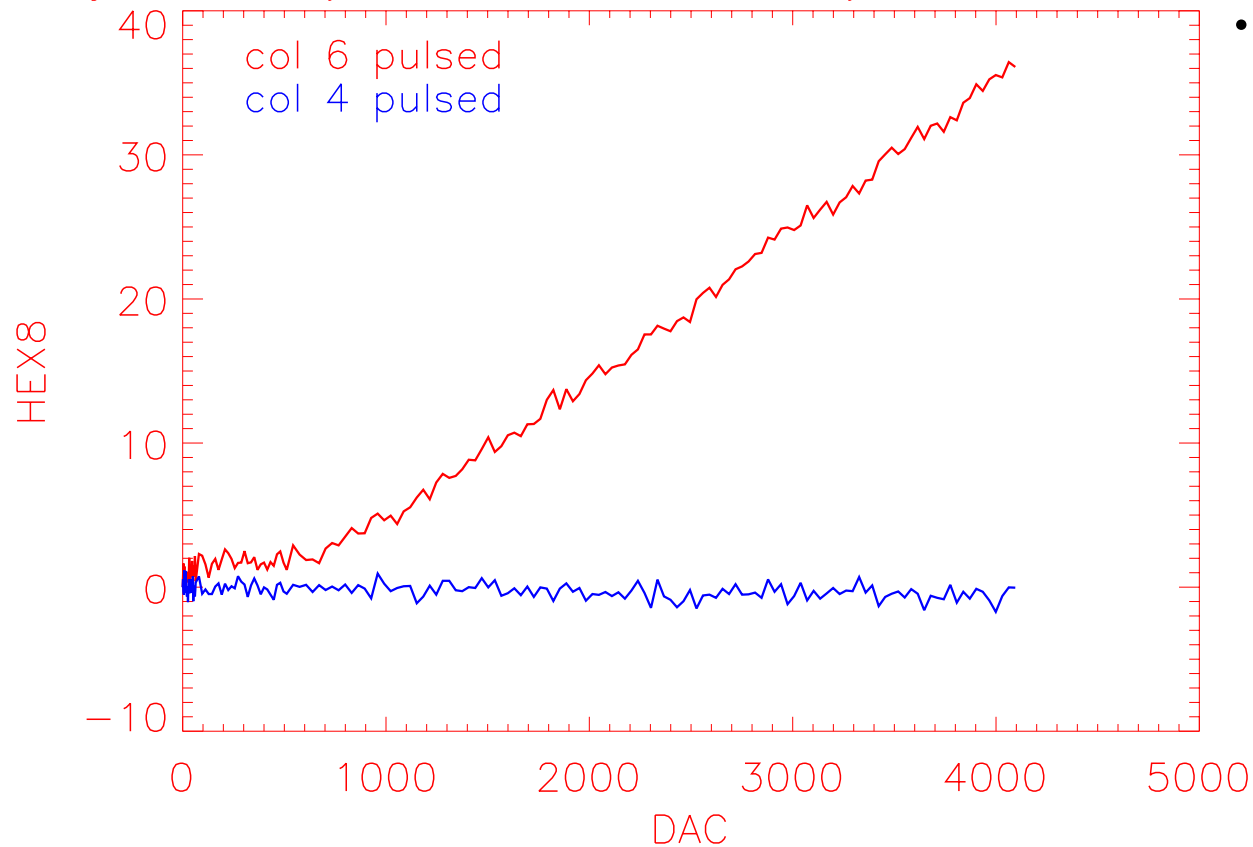
Adjacent crystal crosstalk correction.

Alexandre Chekhtman
NRL/GMU

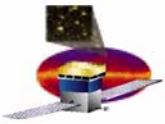


Crosstalk between adjacent crystals

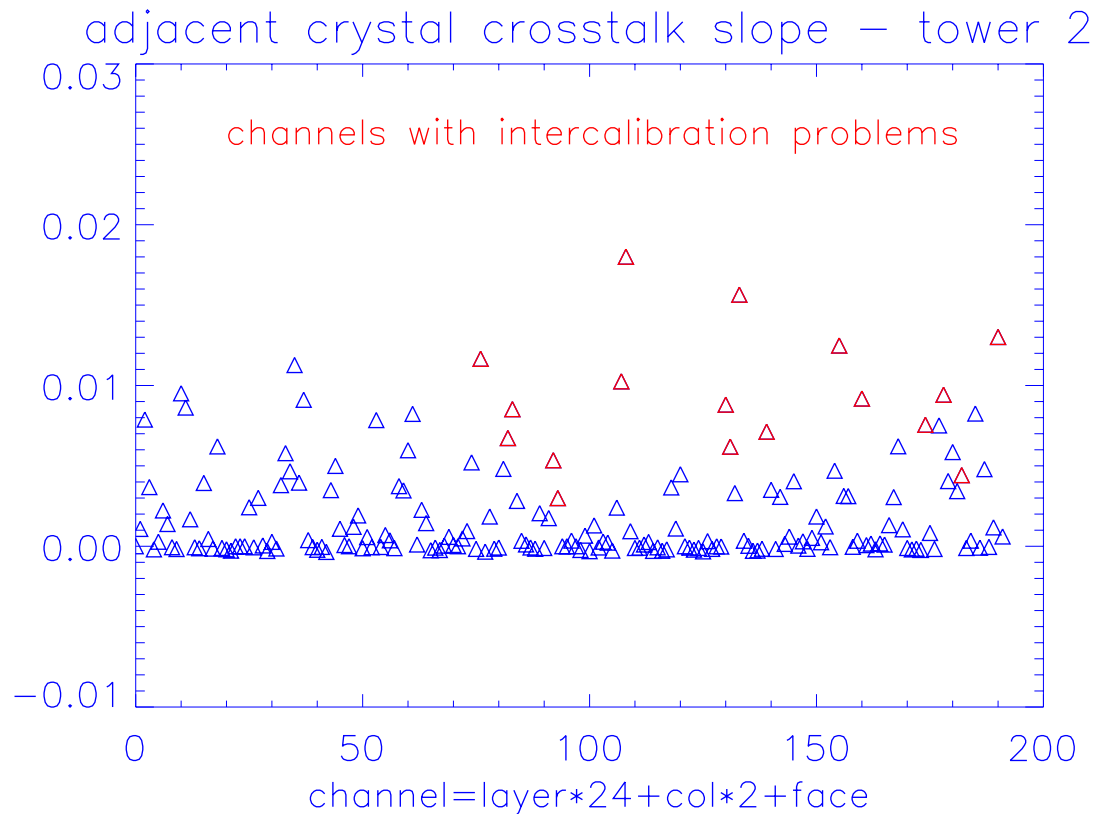
adjacent crystal xtalk: twr=2, lyr=4,col=5,face=+



- To correct:
 - Linear fit in the range $DAC > 1000$
 - The line arrives to 0 at $DAC = 640$
 - Crosstalk considered 0 below $DAC = 640$

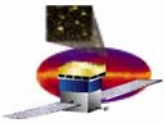


Crosstalk slopes for all channels of tower 2



- Red triangles - channels with intercalibration problems in Philippe's analysis
- Only layers >2 affected, because significant energy deposition is needed
-

- To correct the crosstalk, the following function was proposed:
if(FaceSignal[col±1]>2100)FaceSignal[col]-= xtalk_slope* (FaceSignal[col±1]-2100)
- The average MeVperDAC coefficient used to convert threshold to energy scale (2100 MeV)



What's going on now

- After Philippe applied this adjacent crystal crosstalk correction in his intercalibration analysis, the outliers in HEX8/LEX1 ratio disappeared
- Zach Fewtrell is adding the adjacent crystal crosstalk analysis to CalibGenCAL and the appropriate correction to CalXtalResponse.
- All corrections done so far do not help to solve MC-data discrepancy