

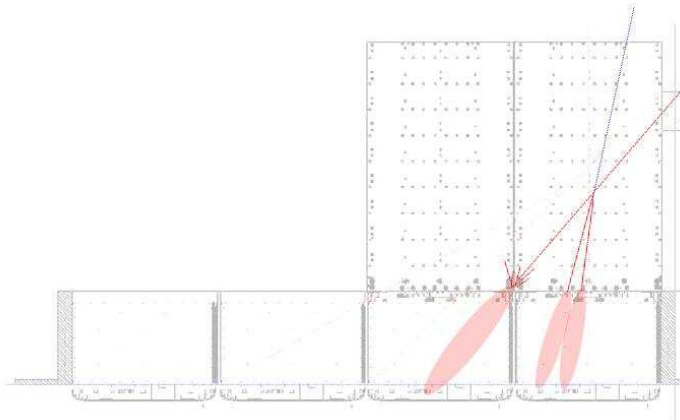
GLAST CERN 2006 Beamtest



Xtalk in the calorimeter

Johan Bregeon (INFN-Pisa)

Beamtest Analysis - March 7th, 2007



RUN 700002720

Charge Injection

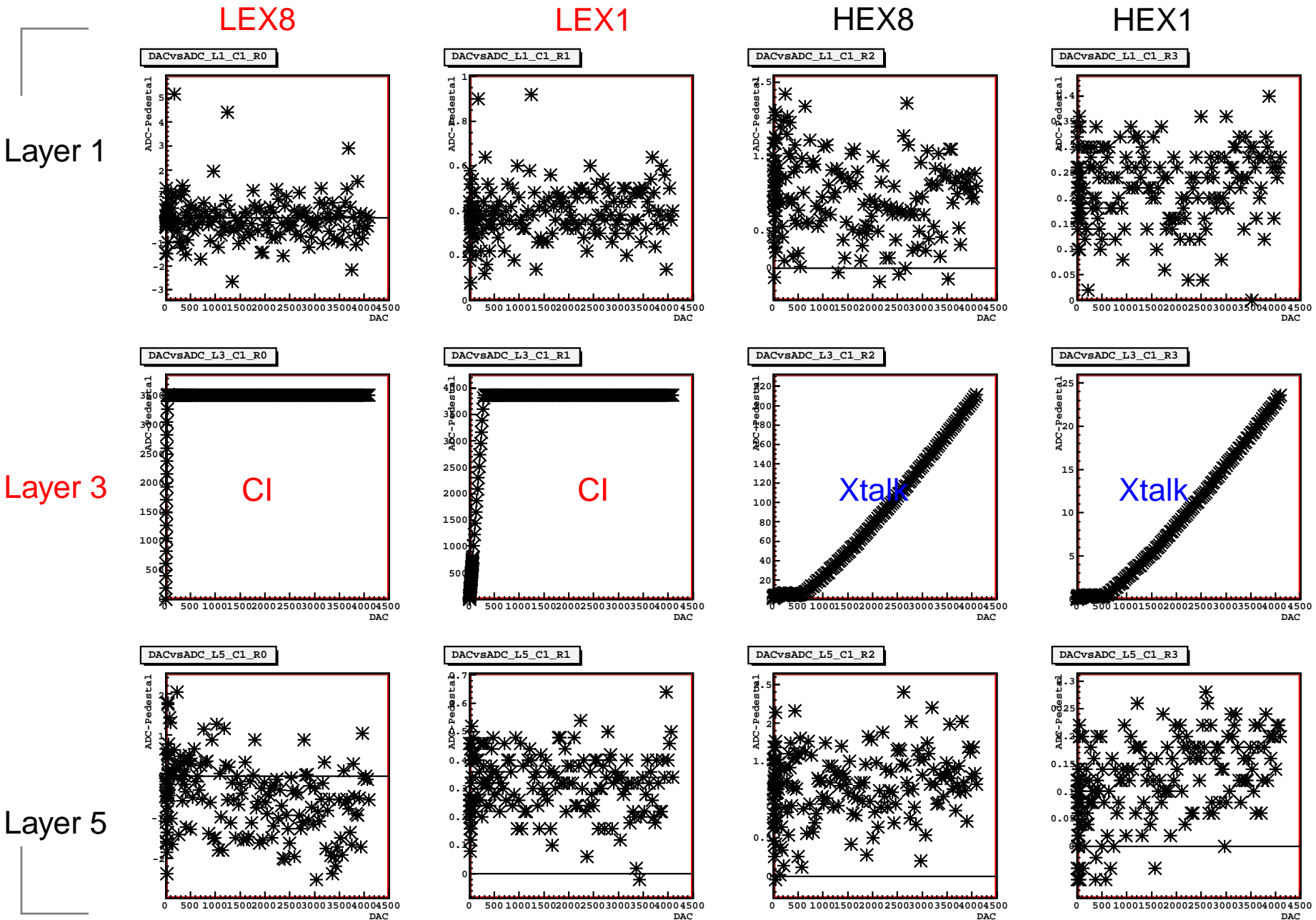
- Layer 3
- Loop on all columns (0-11)
- Injection charge in LE electronic only
- Reading everything: 4 range, non zero suppress

⇒ in the following plots $L_i_C_j_R_k$ means:
Layer i, Column j, Range k

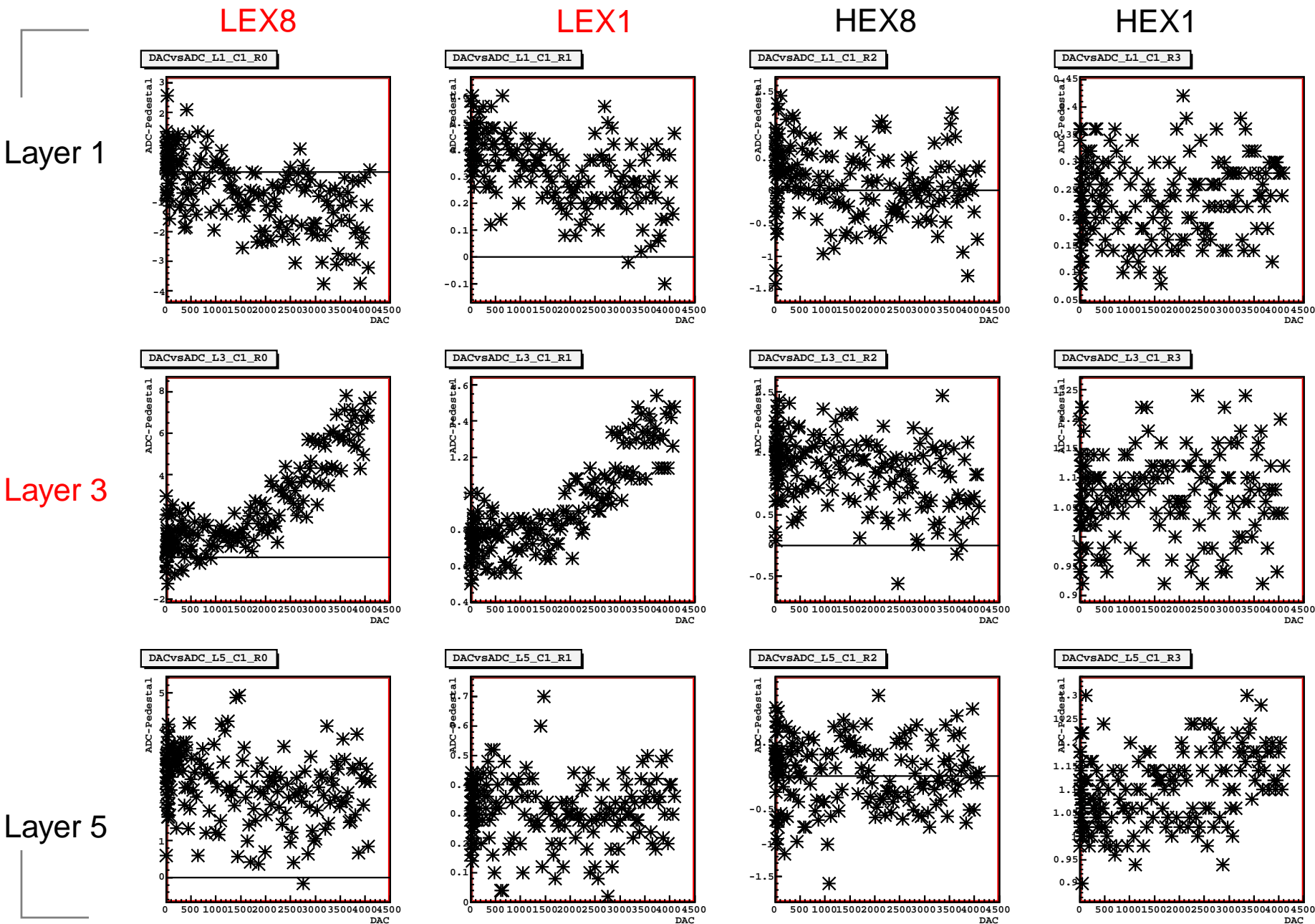
Analysis for Tower 2

- For charge injection in C0, C1, C2
 - △ Looking at C1, in layers: 1, 3 and 5
 - △ for ranges 0, 1, 2, and 3: positive side
- For charge injection in C4, C5, C6
 - △ Looking at C5, in layers: 1, 3 and 5
 - △ for ranges 0, 1, 2, and 3: positive side
- For charge injection in C7, C8, C9
 - △ Looking at C8, in layers: 1, 3 and 5
 - △ for ranges 0, 1, 2, and 3: positive side
- For charge injection in C9, C10, C11
 - △ Looking at C10, in layers: 1, 3 and 5
 - △ for ranges 0, 1, 2, and 3: positive side

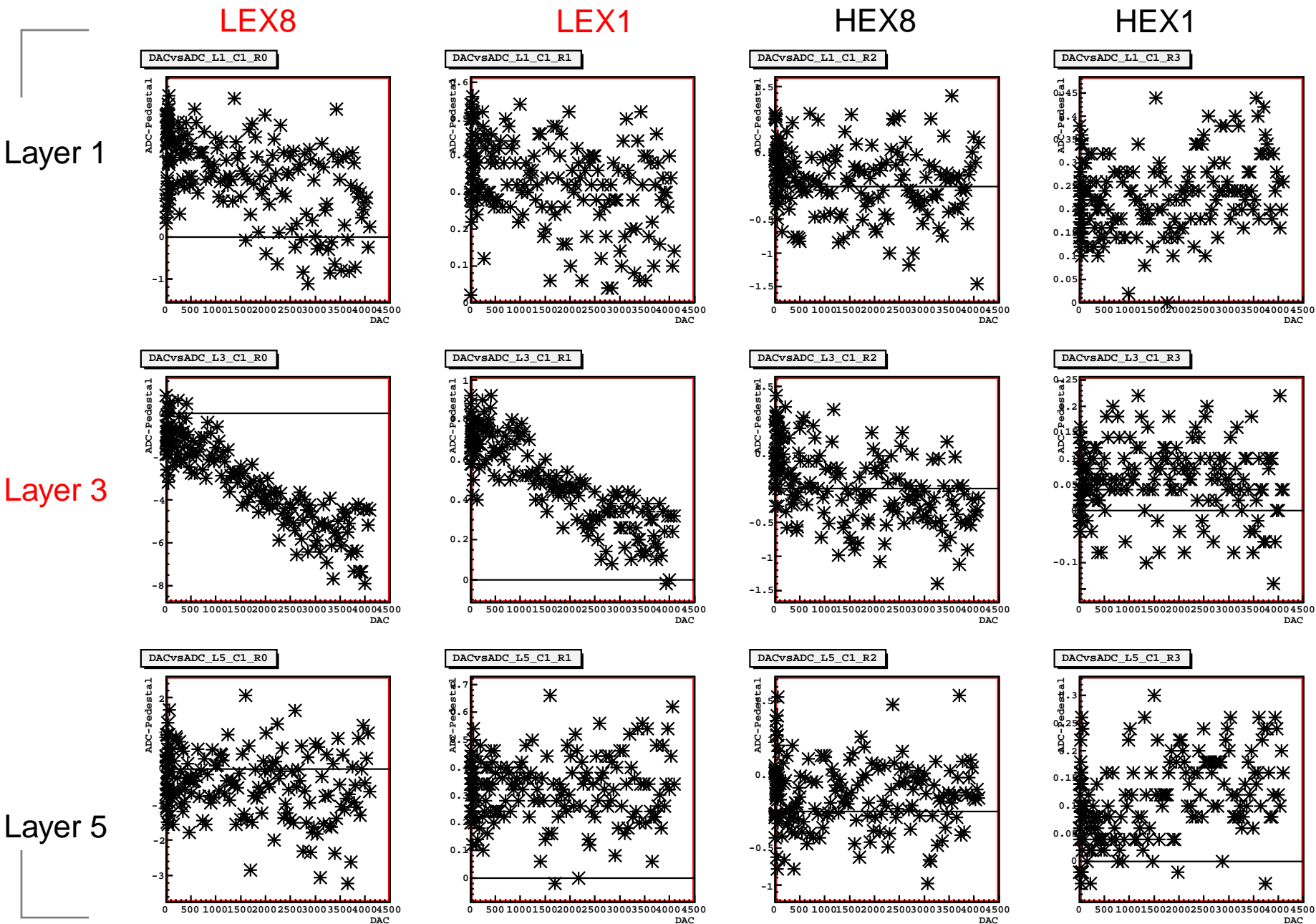
Looking at C1 when Injection in C1



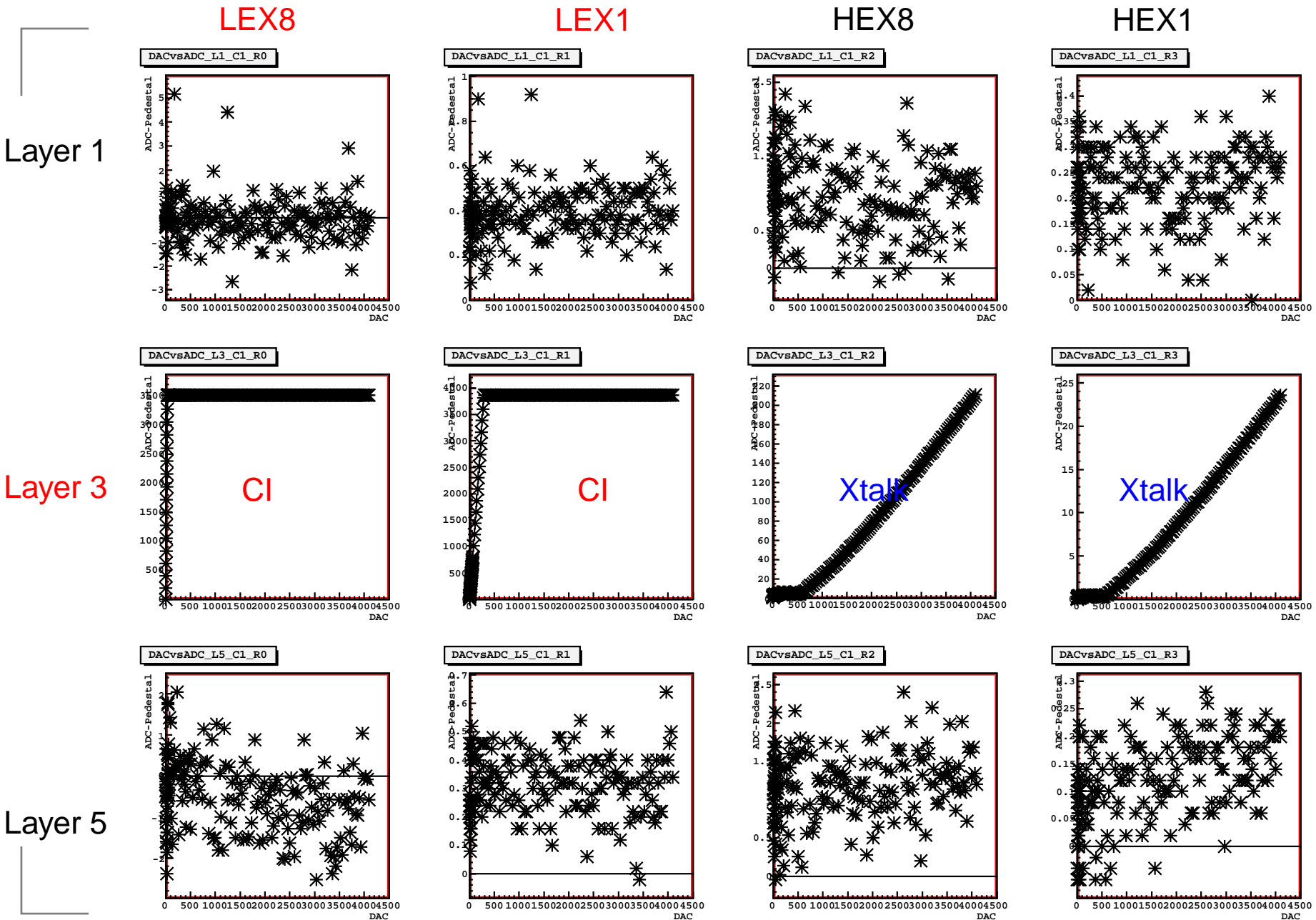
Looking at C1 when Injection in C0



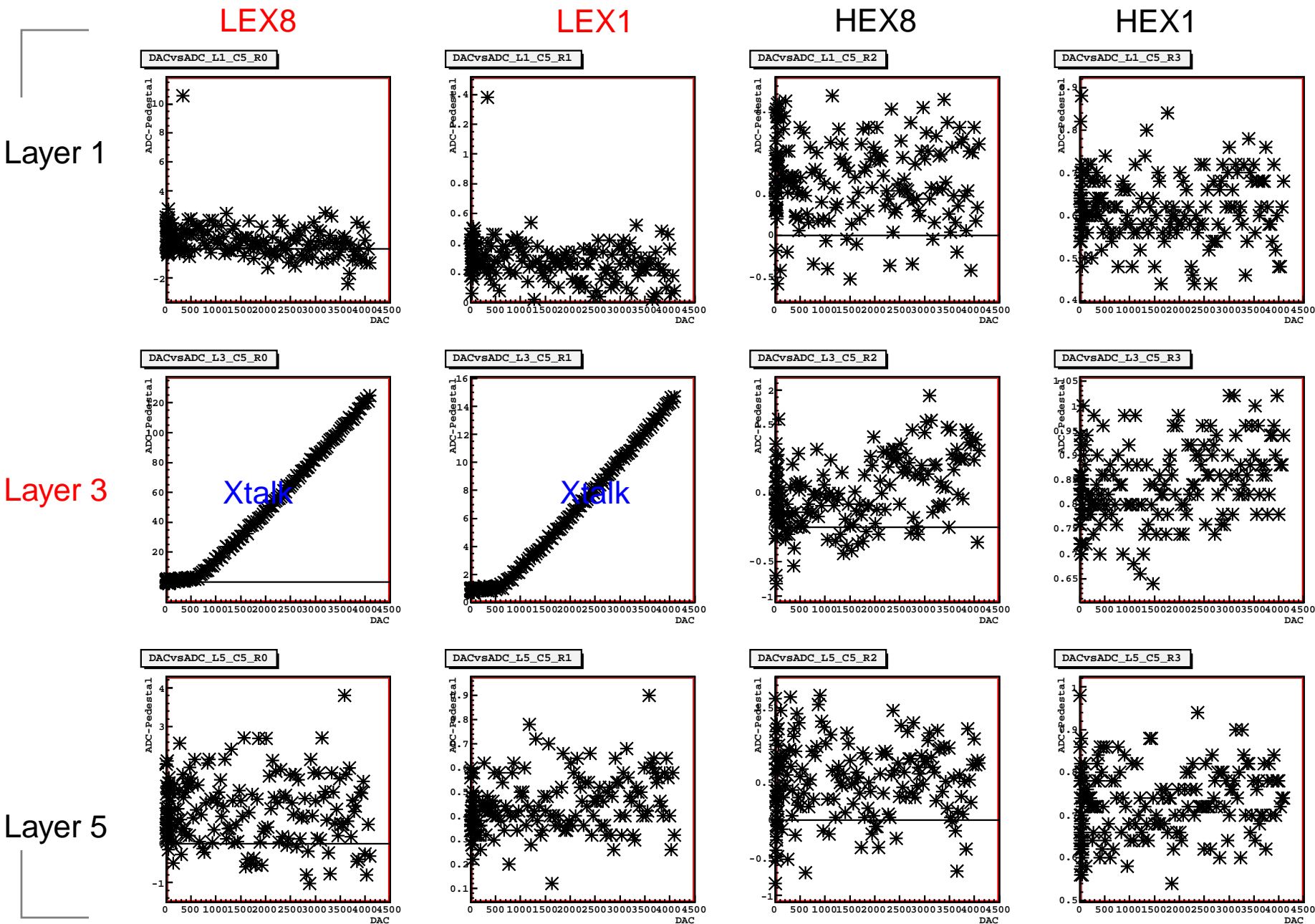
Looking at C1 when Injection in C2



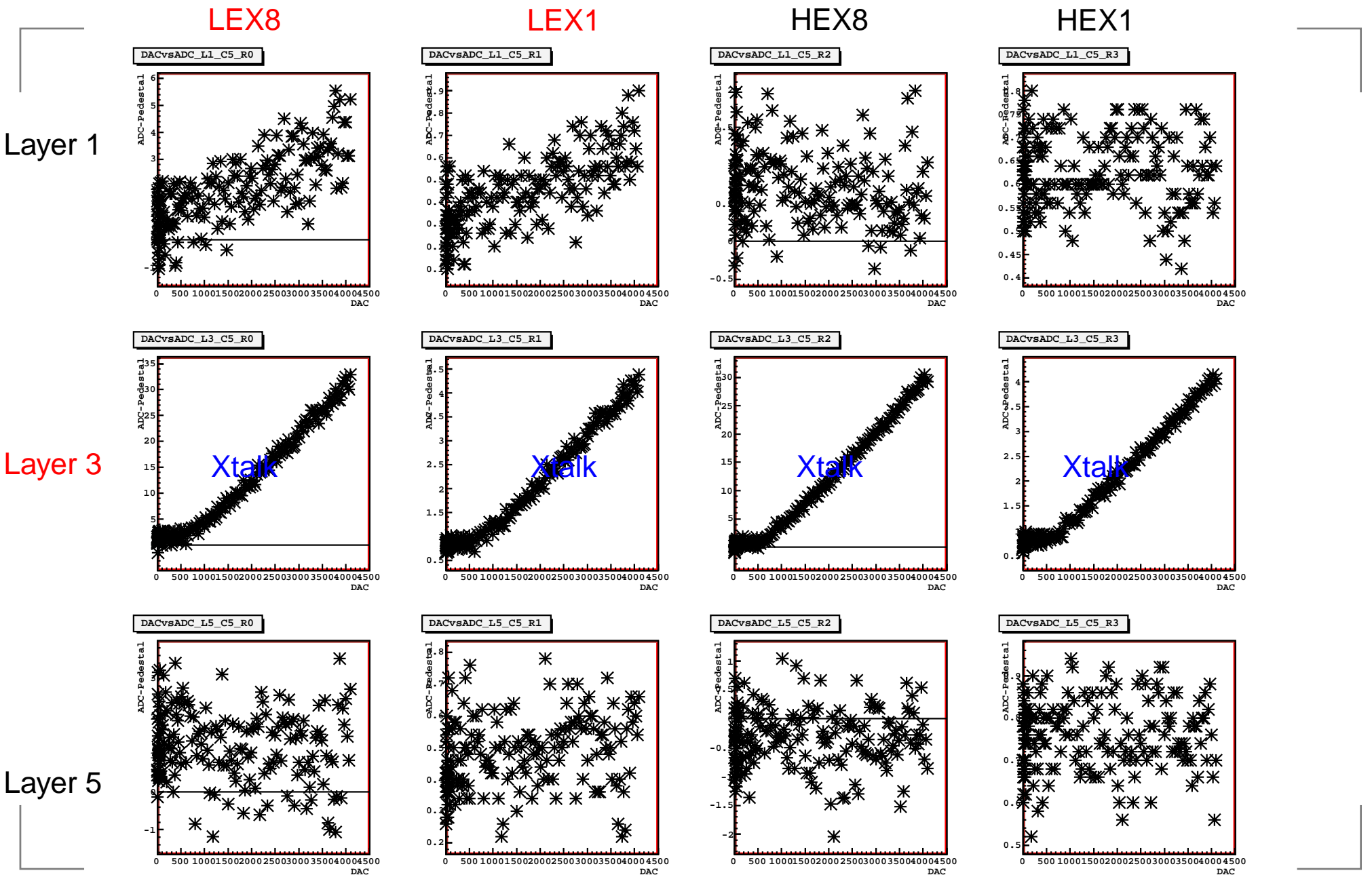
Looking at C5 when Injection in C5



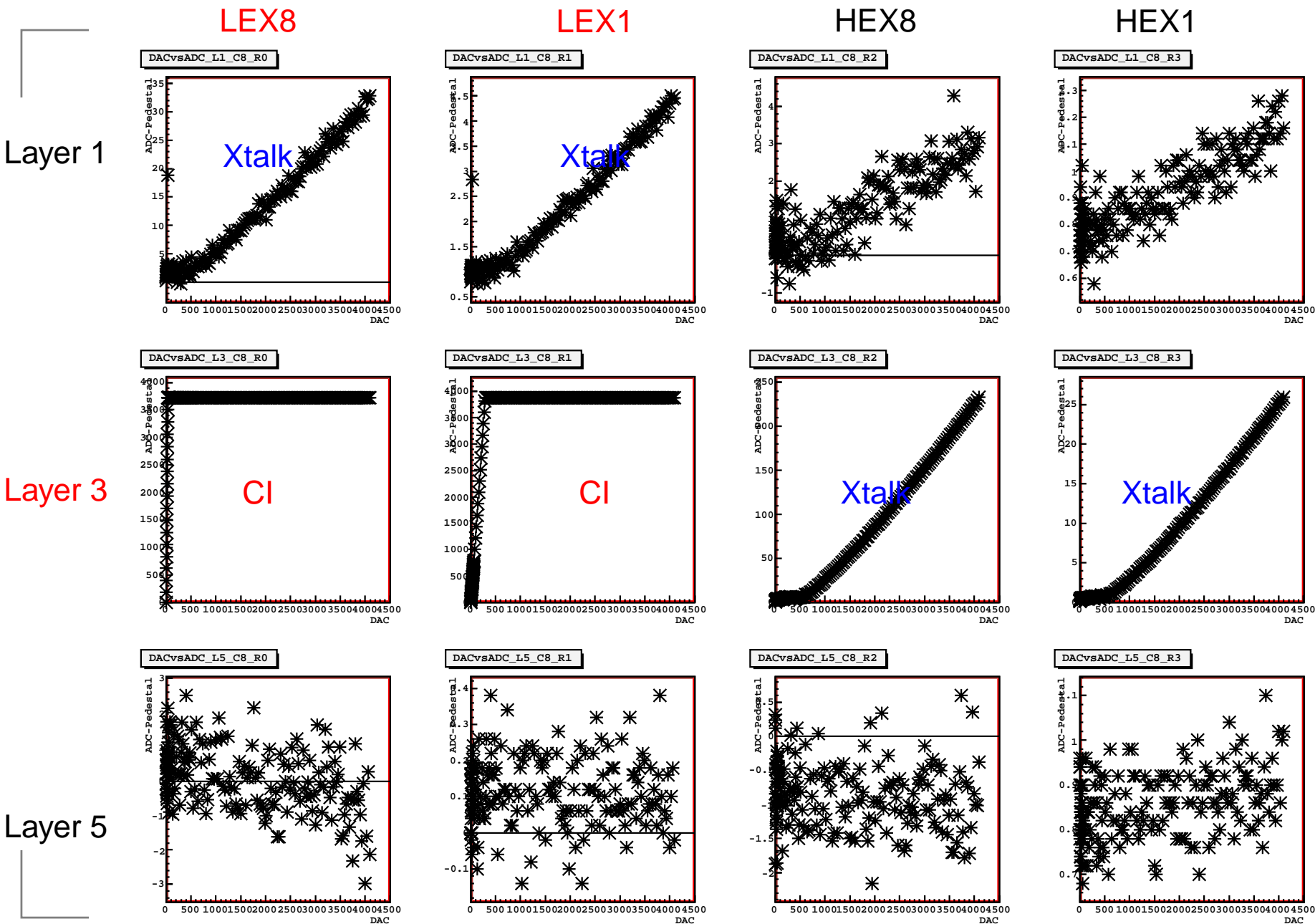
Looking at C5 when Injection in C4



Looking at C5 when Injection in C6

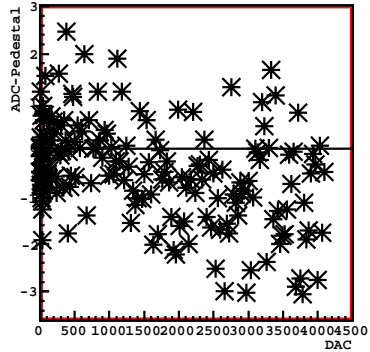


Looking at C8 when Injection in C8

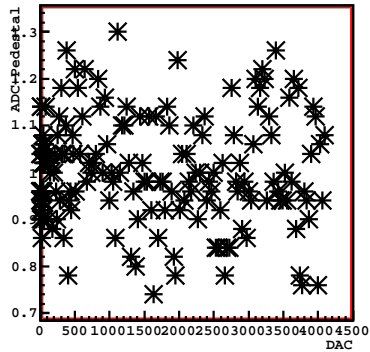


Looking at C8 when Injection in C7

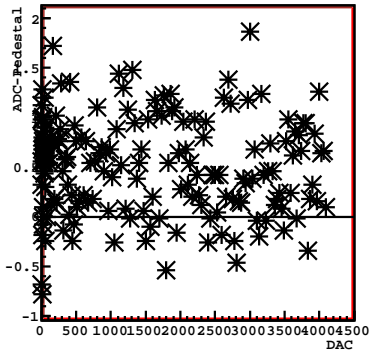
DACvsADC_L1_C8_R0



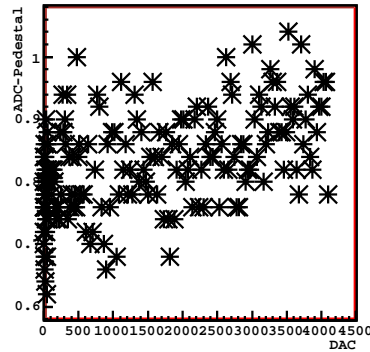
DACvsADC_L1_C8_R1



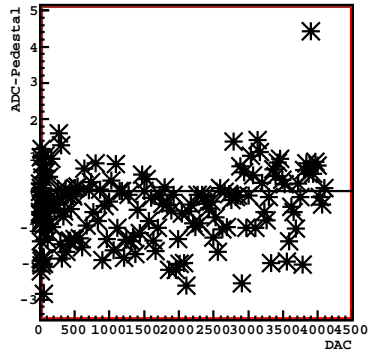
DACvsADC_L1_C8_R2



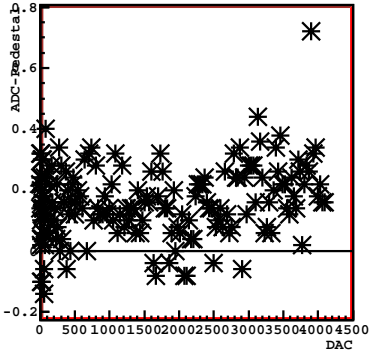
DACvsADC_L1_C8_R3



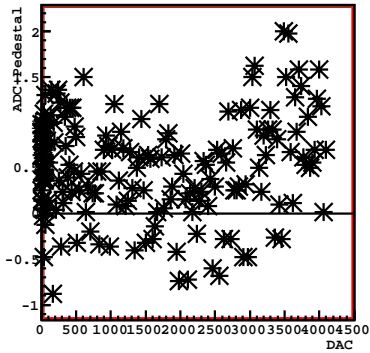
DACvsADC_L3_C8_R0



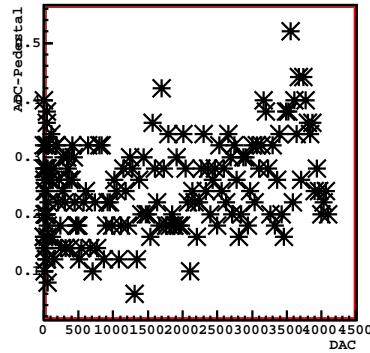
DACvsADC_L3_C8_R1



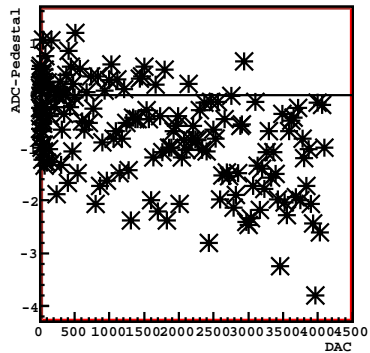
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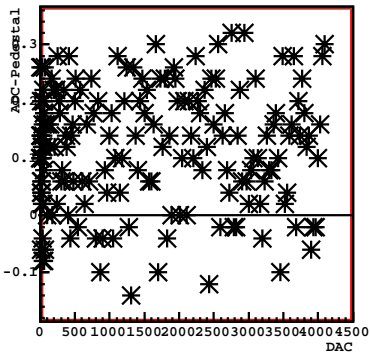
DACvsADC_L3_C8_R3



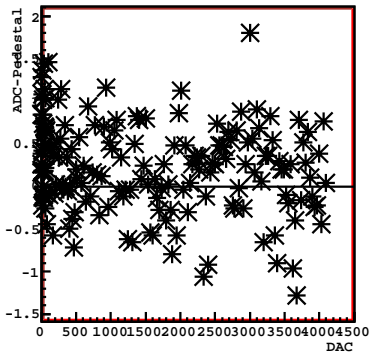
DACvsADC_L5_C8_R0



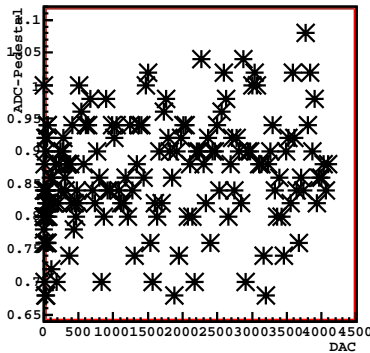
DACvsADC_L5_C8_R1



DACvsADC_L5_C8_R2

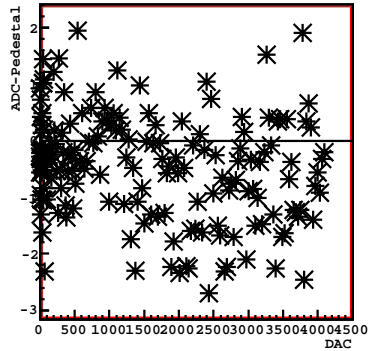


DACvsADC_L5_C8_R3

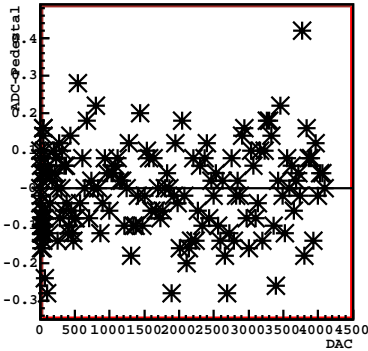


Looking at C8 when Injection in C9

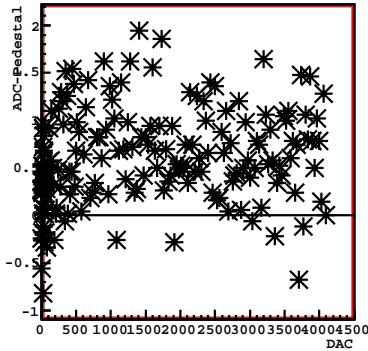
DACvsADC_L1_C8_R0



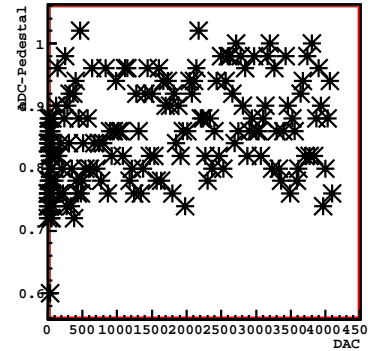
DACvsADC_L1_C8_R1



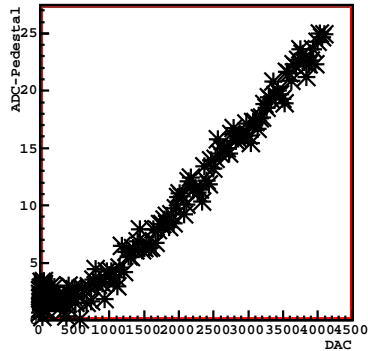
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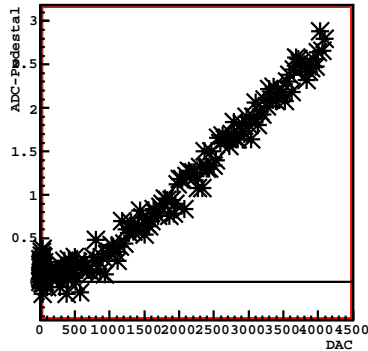
DACvsADC_L1_C8_R3



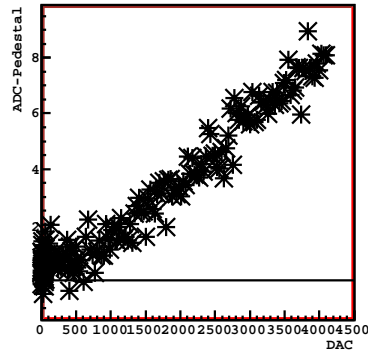
DACvsADC_L3_C8_R0



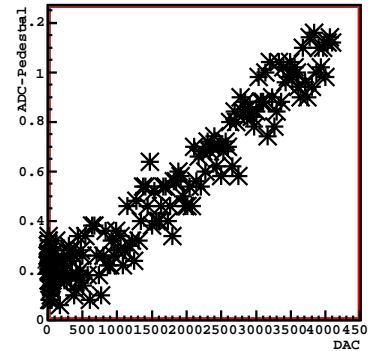
DACvsADC_L3_C8_R1



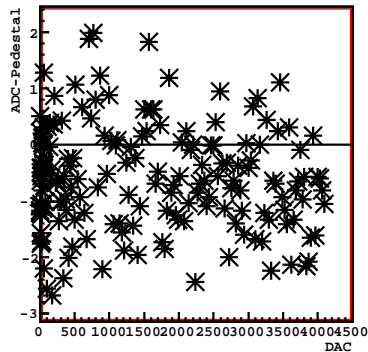
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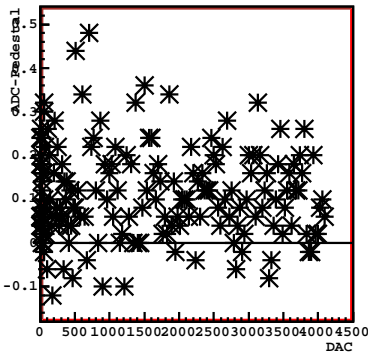
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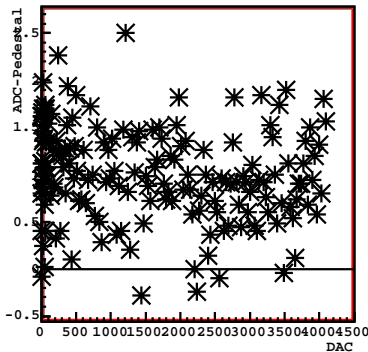
DACvsADC_L5_C8_R0



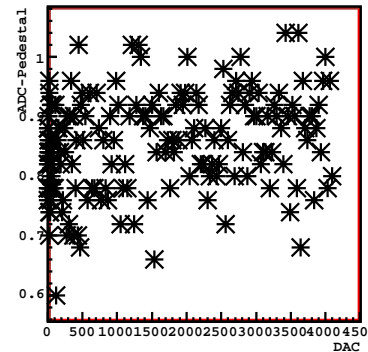
DACvsADC_L5_C8_R1



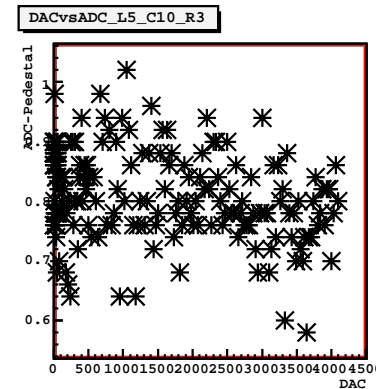
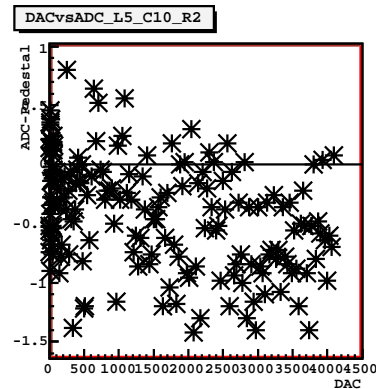
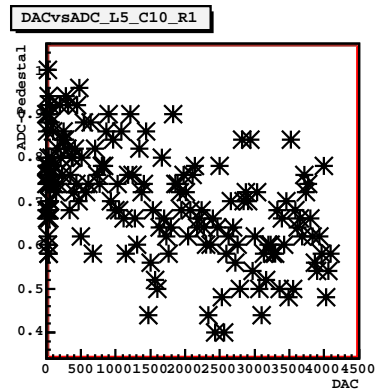
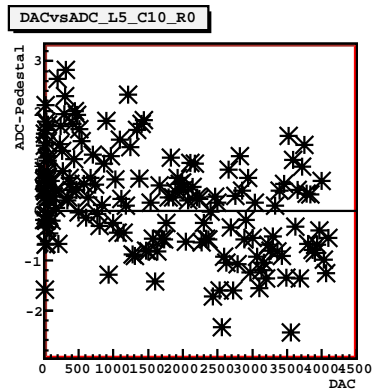
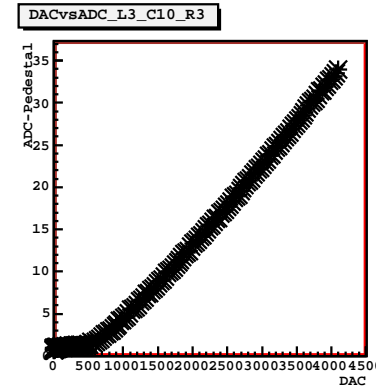
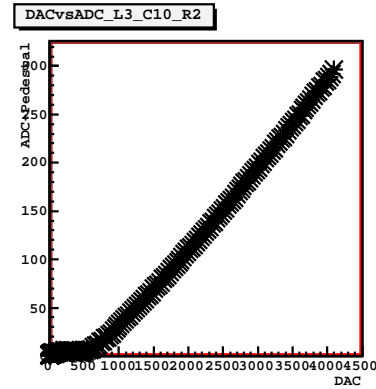
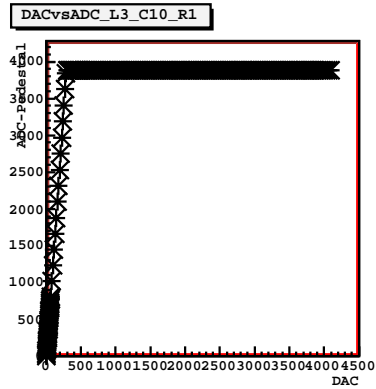
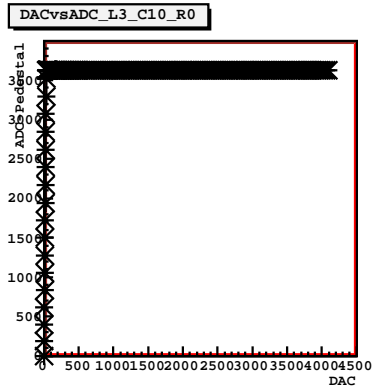
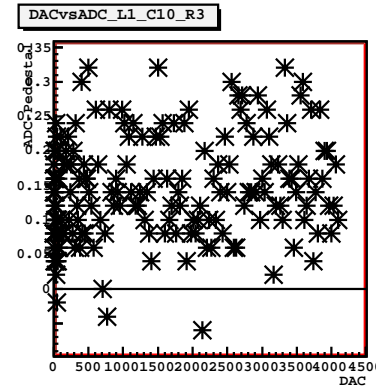
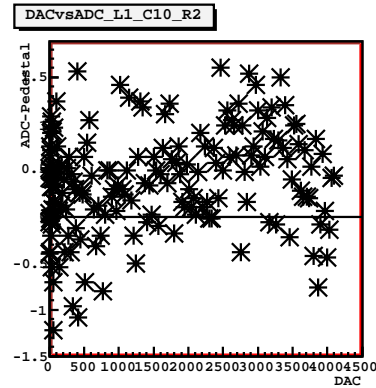
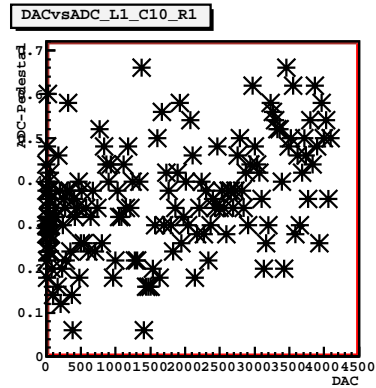
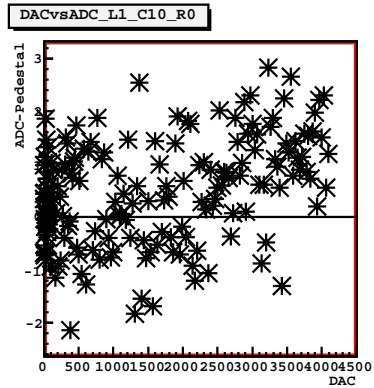
DACvsADC_L5_C8_R2



DACvsADC_L5_C8_R3

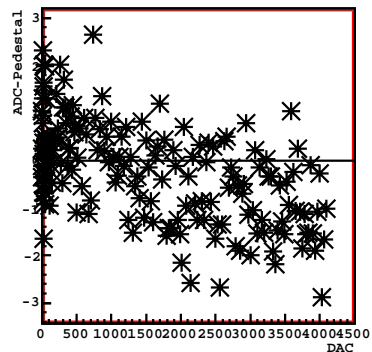


Looking at C10 when Injection in C10

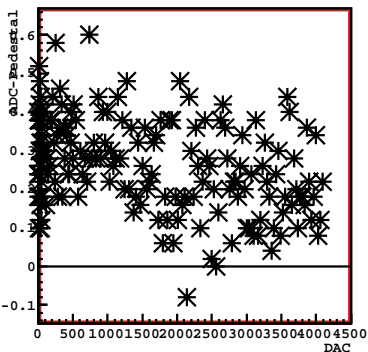


Looking at C10 when Injection in C9

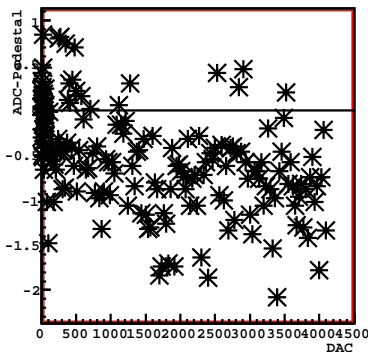
DACvsADC_L1_C10_R0



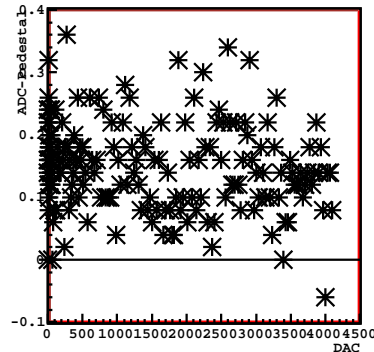
DACvsADC_L1_C10_R1



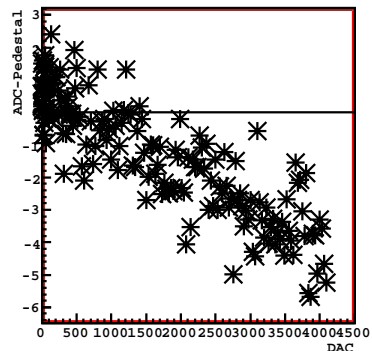
DACvsADC_L1_C10_R2



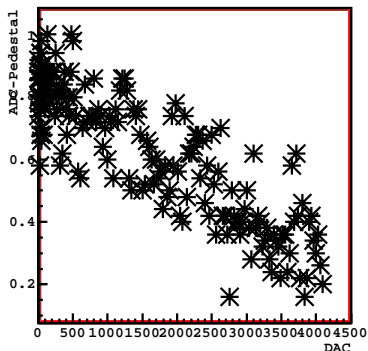
DACvsADC_L1_C10_R3



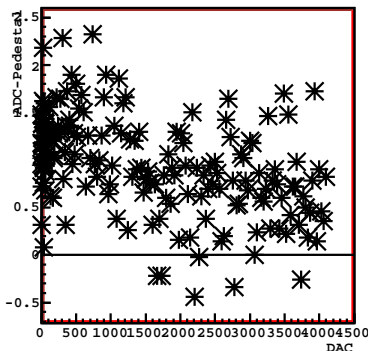
DACvsADC_L3_C10_R0



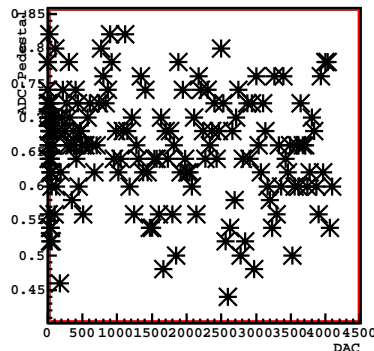
DACvsADC_L3_C10_R1



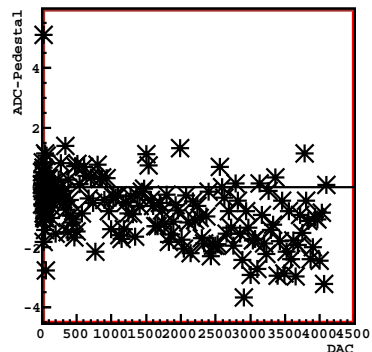
DACvsADC_L3_C10_R2



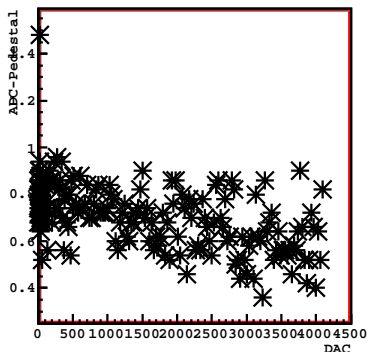
DACvsADC_L3_C10_R3



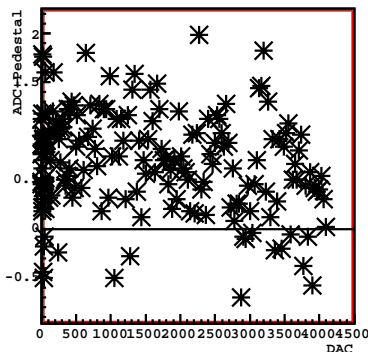
DACvsADC_L5_C10_R0



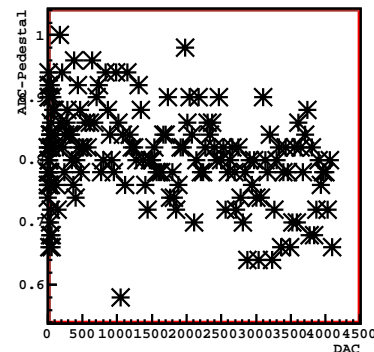
DACvsADC_L5_C10_R1



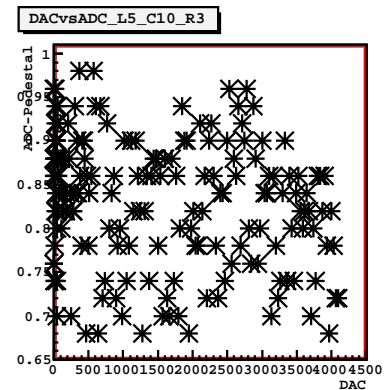
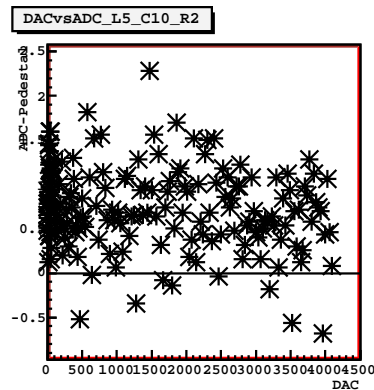
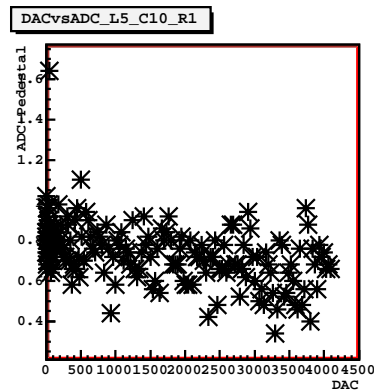
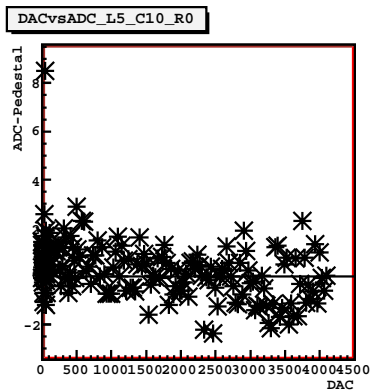
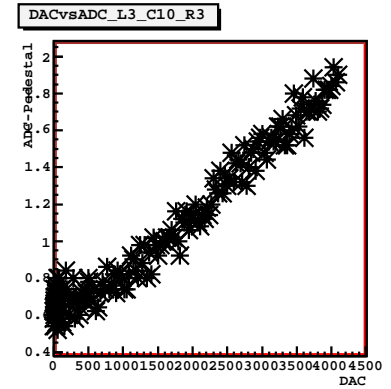
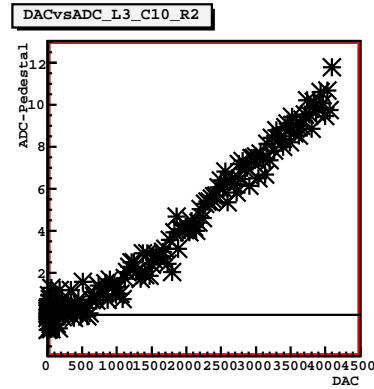
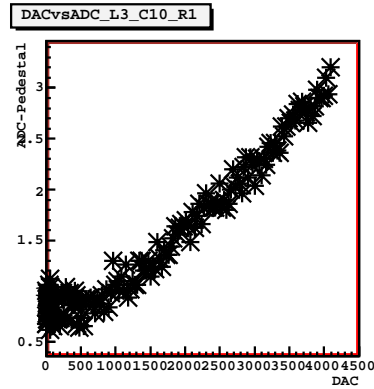
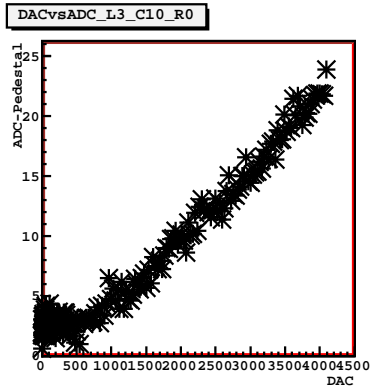
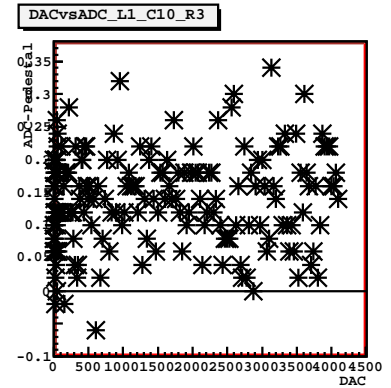
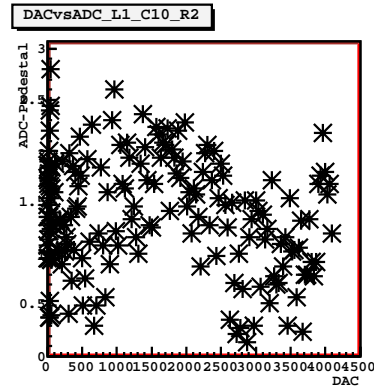
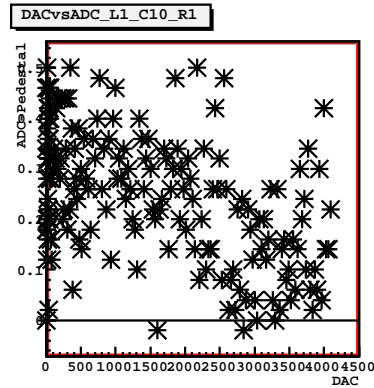
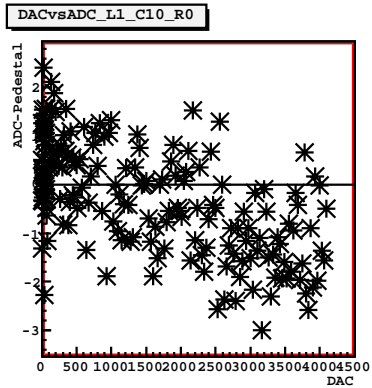
DACvsADC_L5_C10_R2



DACvsADC_L5_C10_R3



Looking at C10 when Injection in C11



Observed Xtalk

1. range 1 to range 2: same layer and column
 2. One column to the side columns: same layer, all ranges
 3. Layer 3 to layers 1 and 5: same column, same range
- Sasha corrected already for points 1. and 2.
- 3. is negligible
- + did not find xtalk between crystals far one from each other (e.g. column i to $i+n$ with $n>1$)
- ⇒ nothing new...got back to the MC.