Loose cuts on Run 1398

Looking at various cut criteria

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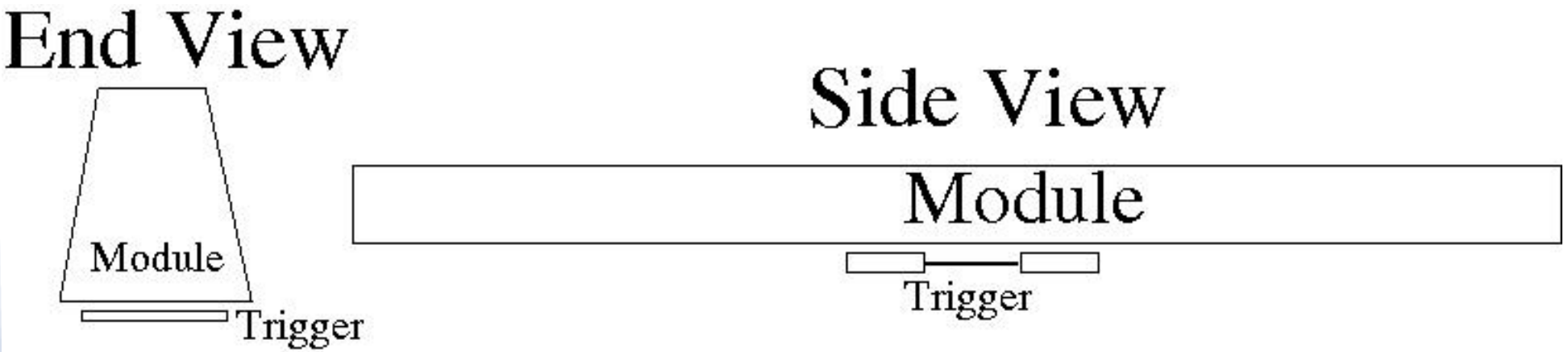
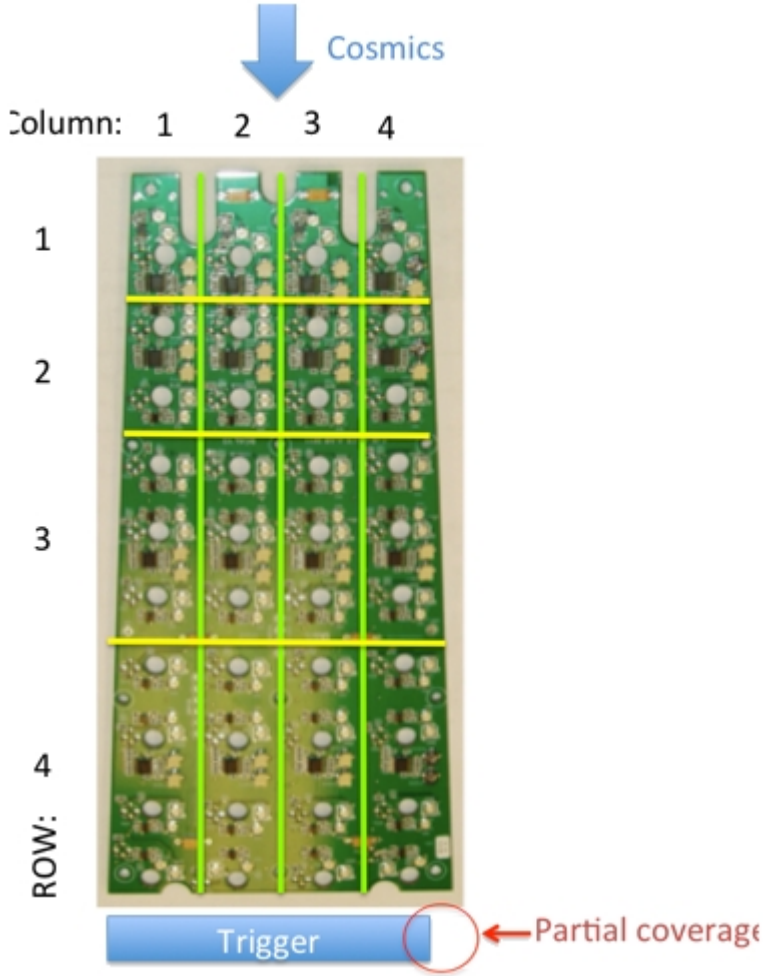
Setup – Experimental Setup



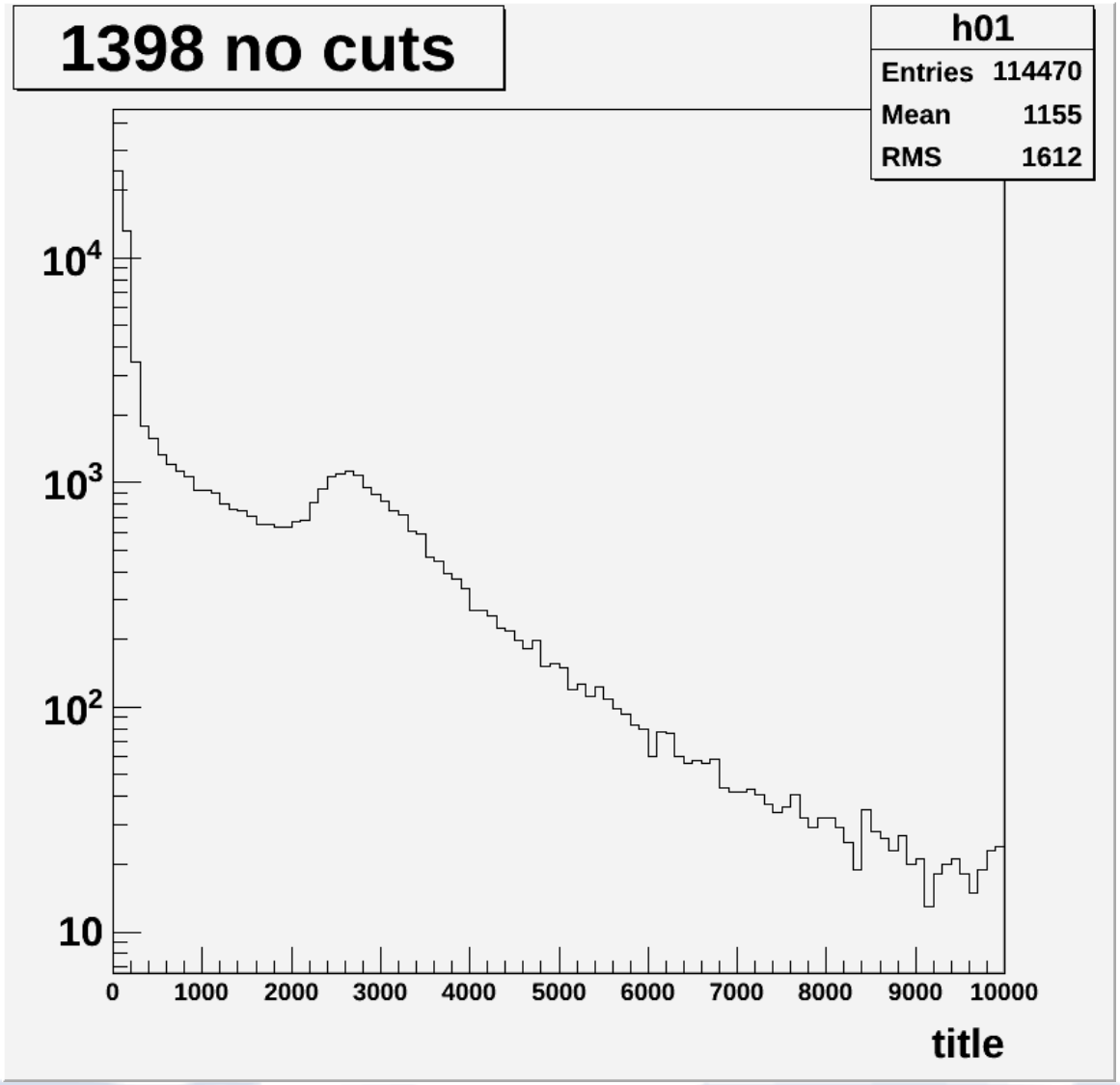
- The trigger is placed under the module approximately centered underneath
- Note: The trigger does not span the width of the module

Setup - Readout



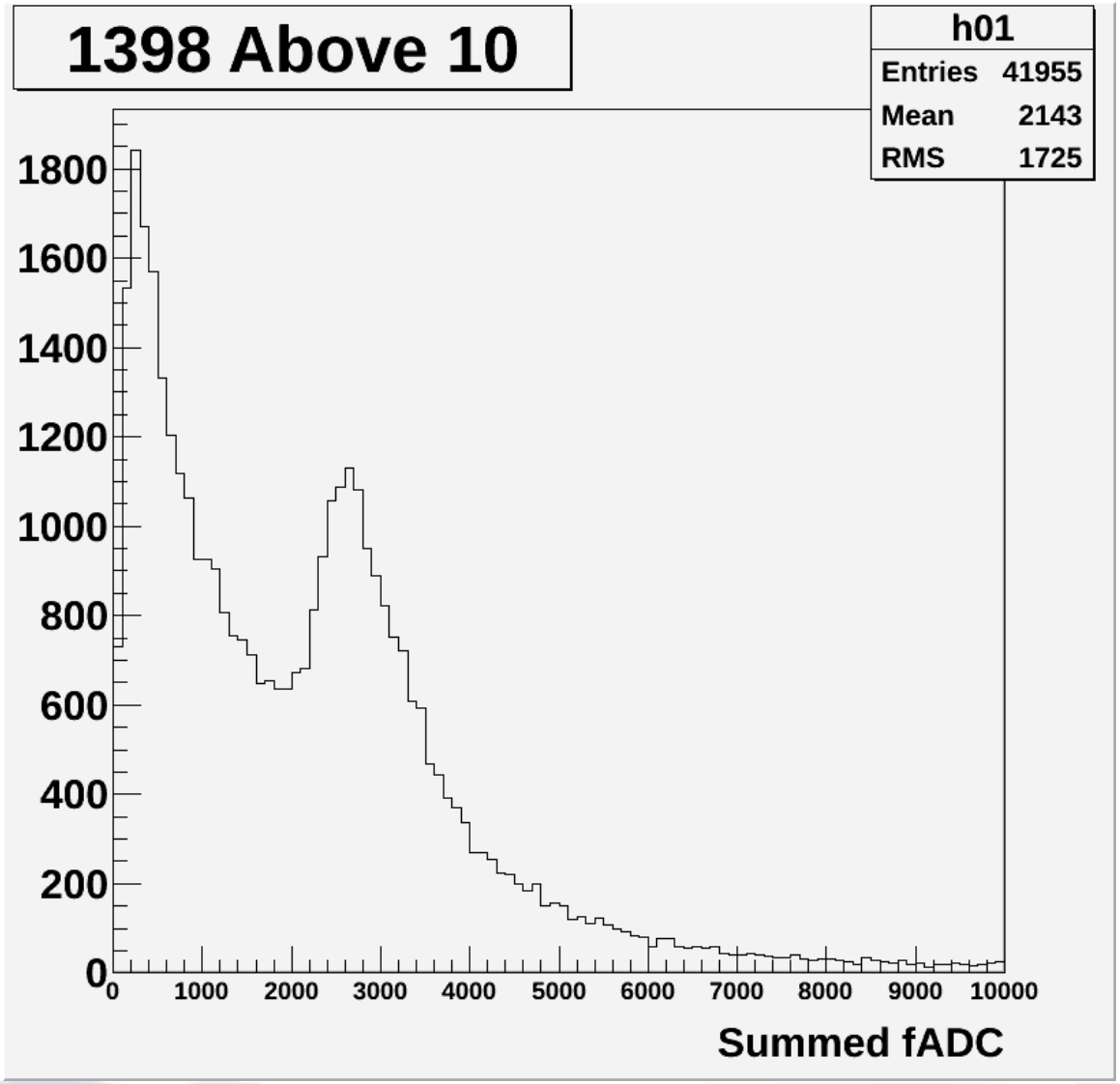
- The module face is divided in 4 rows and 4 columns

No cuts



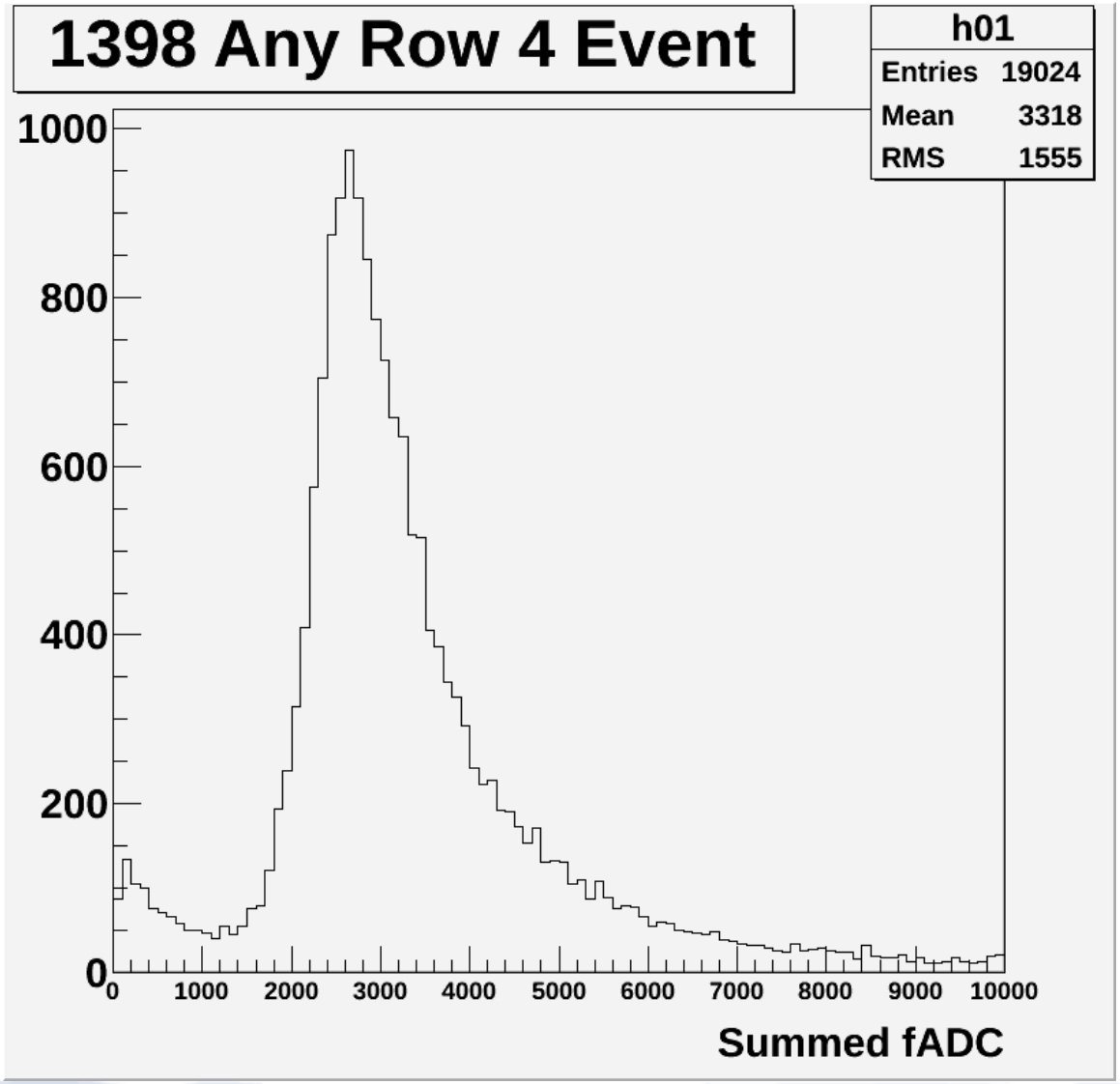
- X-axis: Sum of energies above baseline in all 32 readout cells
- Original data without cuts
- Log scale

Above 10



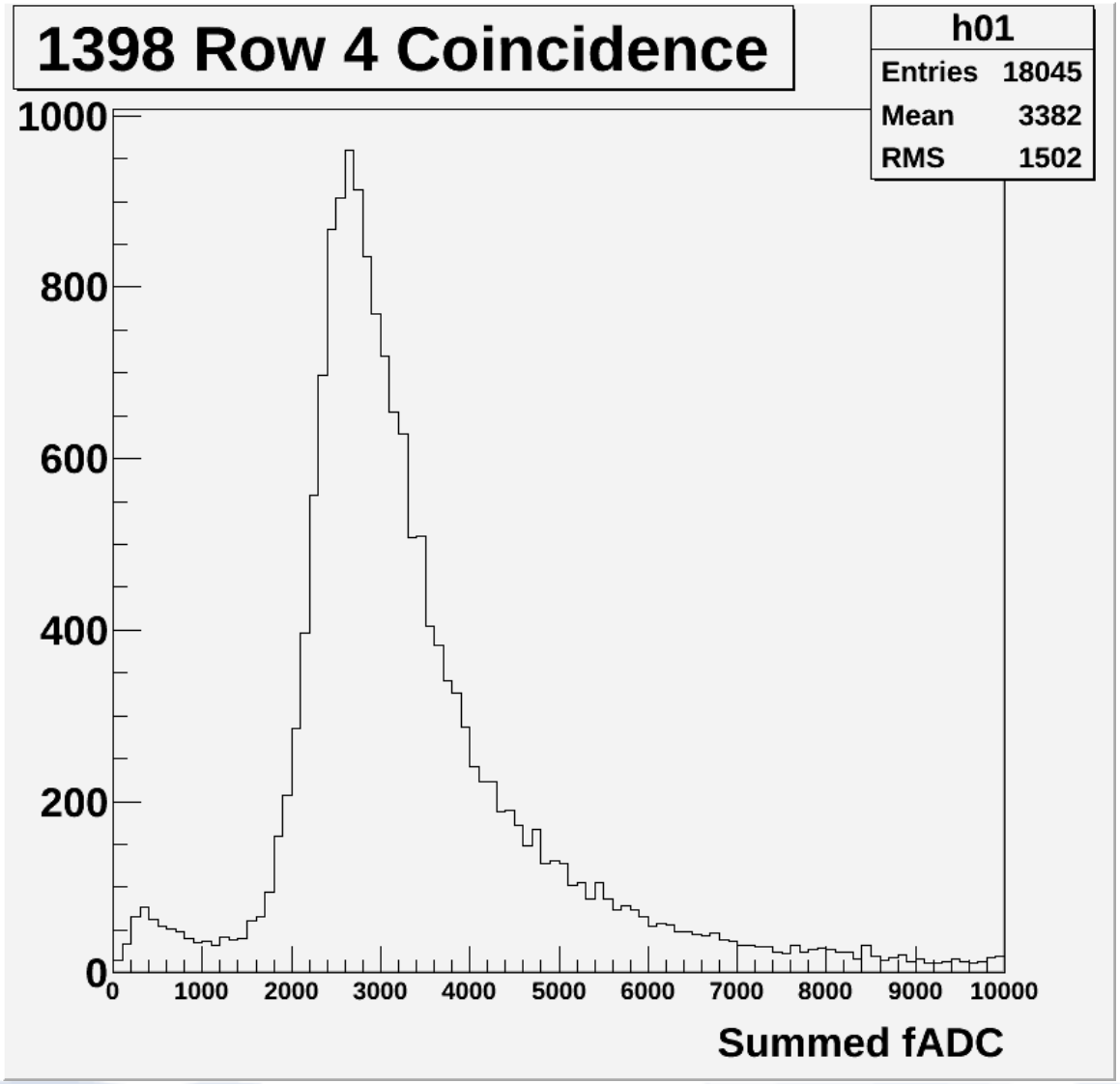
- Must have at least one event in any cell
- Event: at least 10 counts above baseline

Row 4 – no Up/Down Coincidence



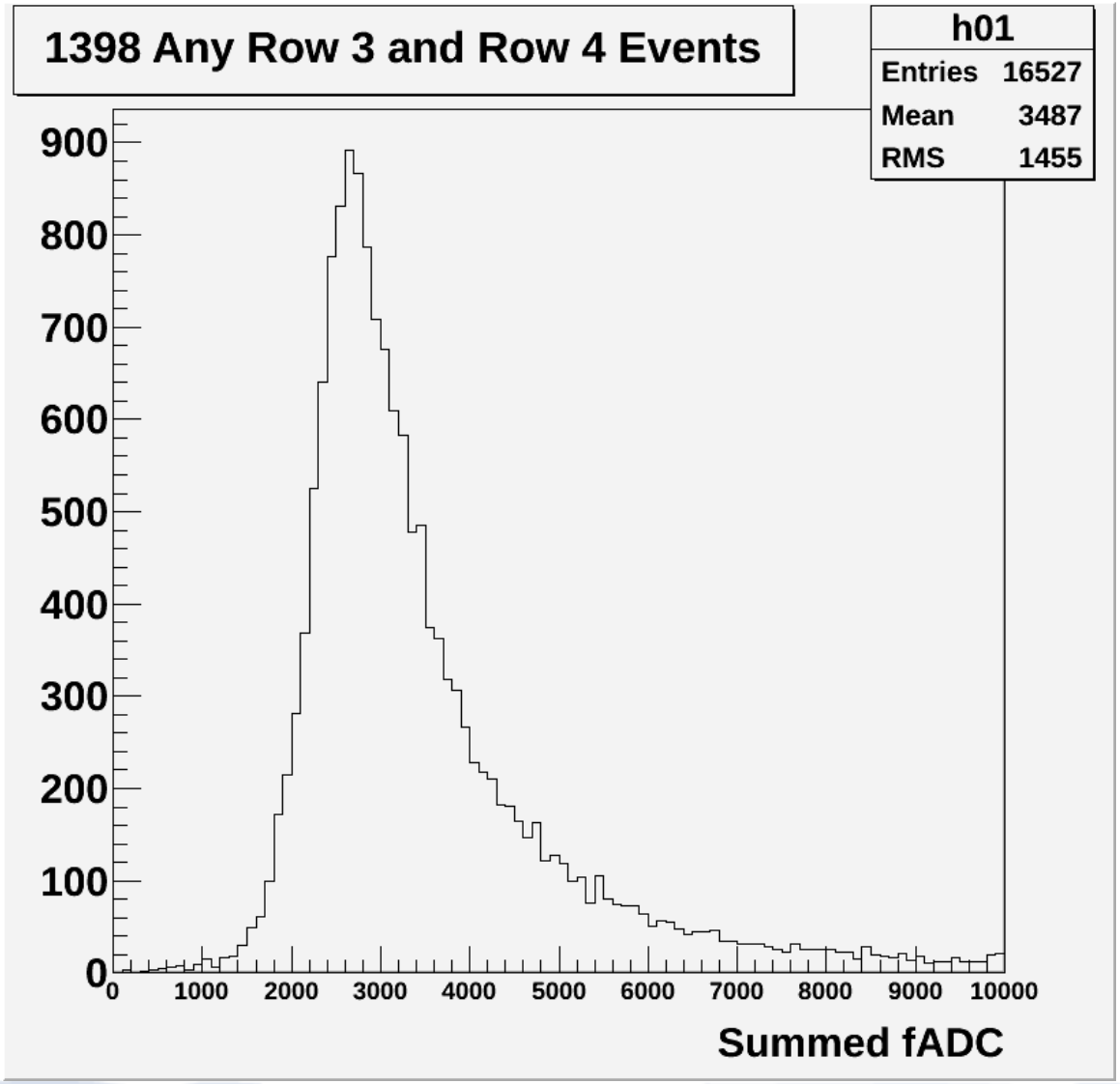
- Must have at least one event in any of the row 4 columns

Row 4 – Up/Down Coincidence



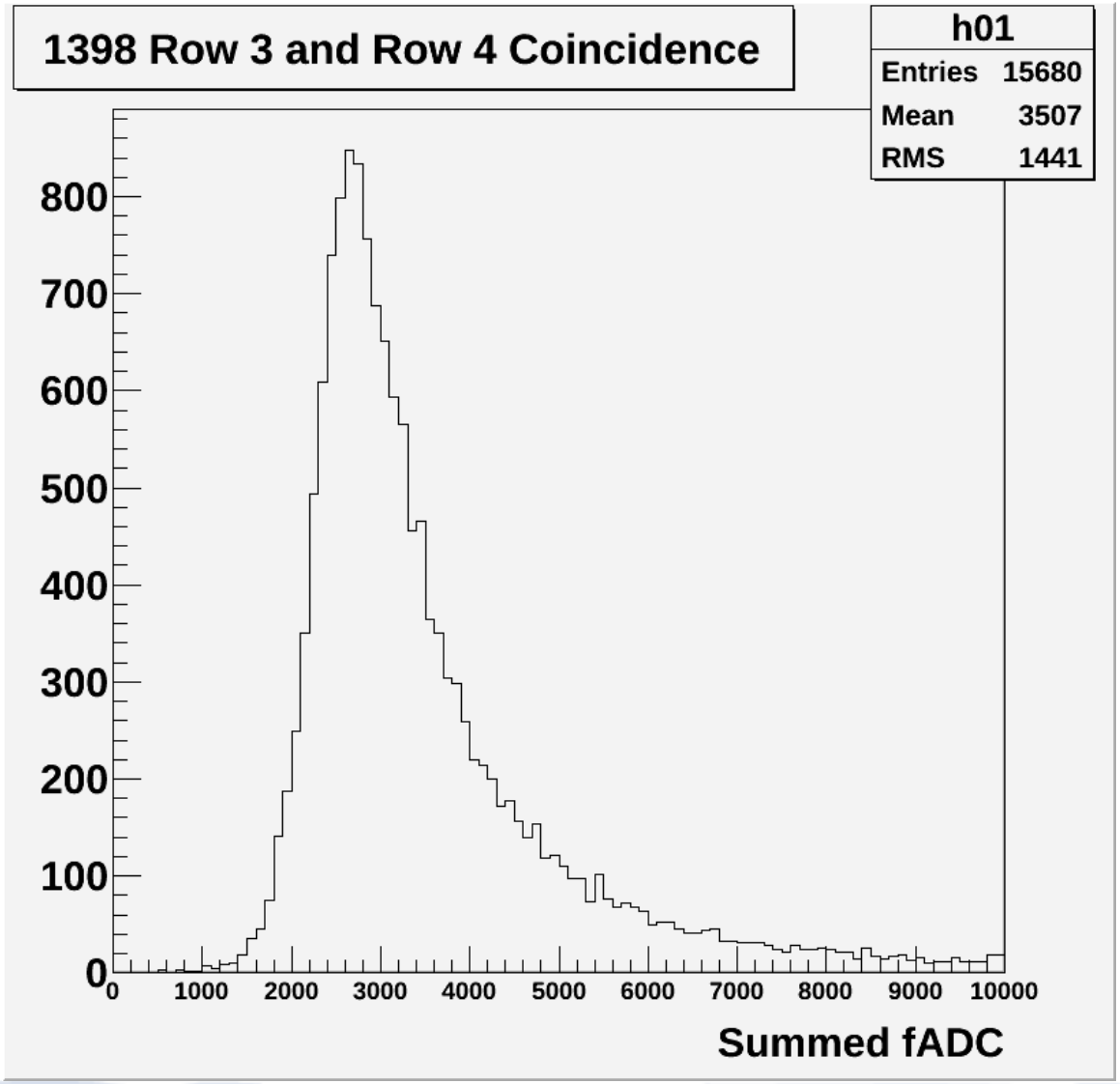
- Must have coincidence between the up/down stream in row 4

Row 3 and Row 4 – No Up/Down Coincidence



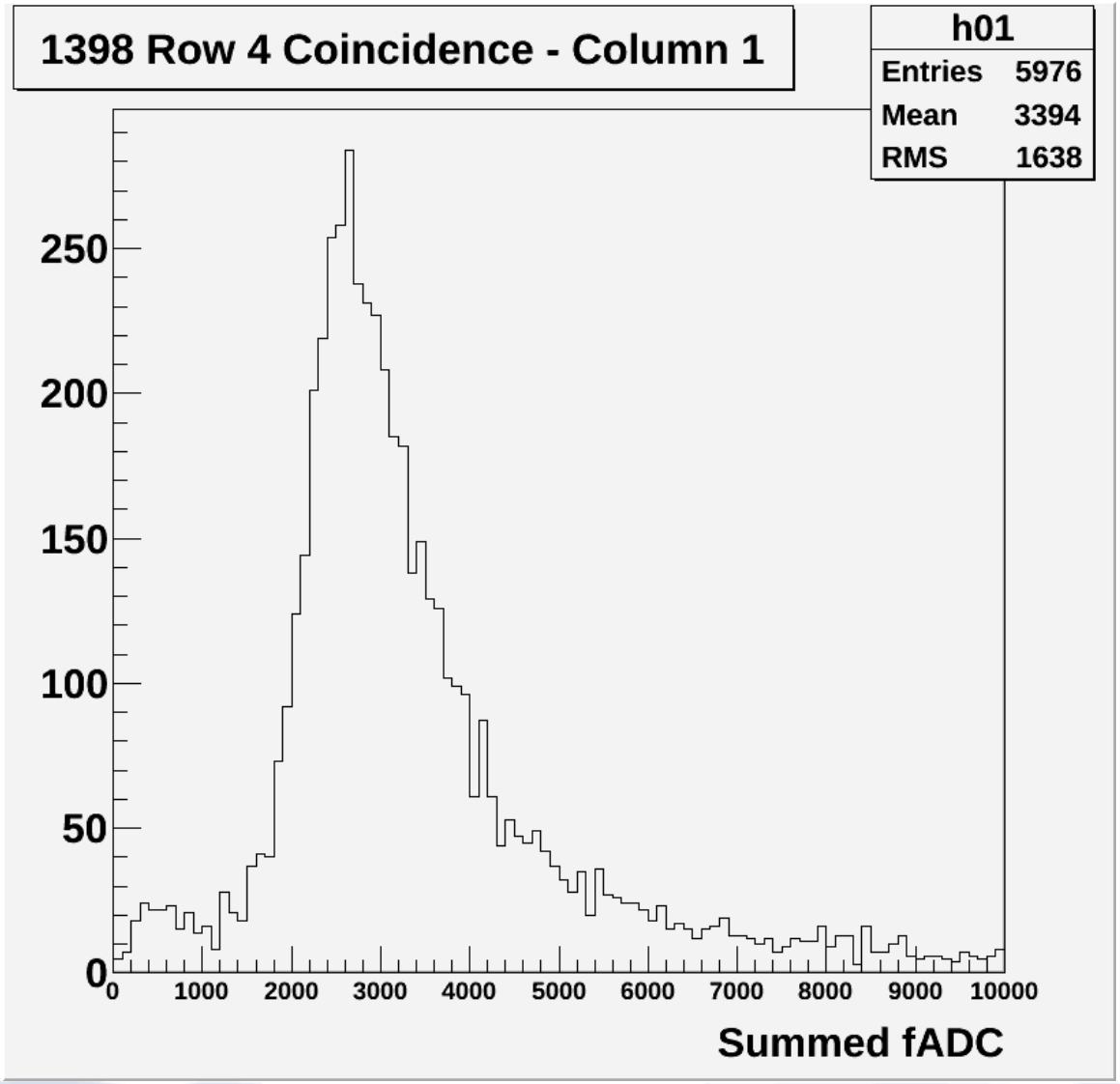
- Must have an event in any of the row 4 columns while simultaneously having having an event in the cell above it

Row 3 and Row 4 – Up/Down Coincidence



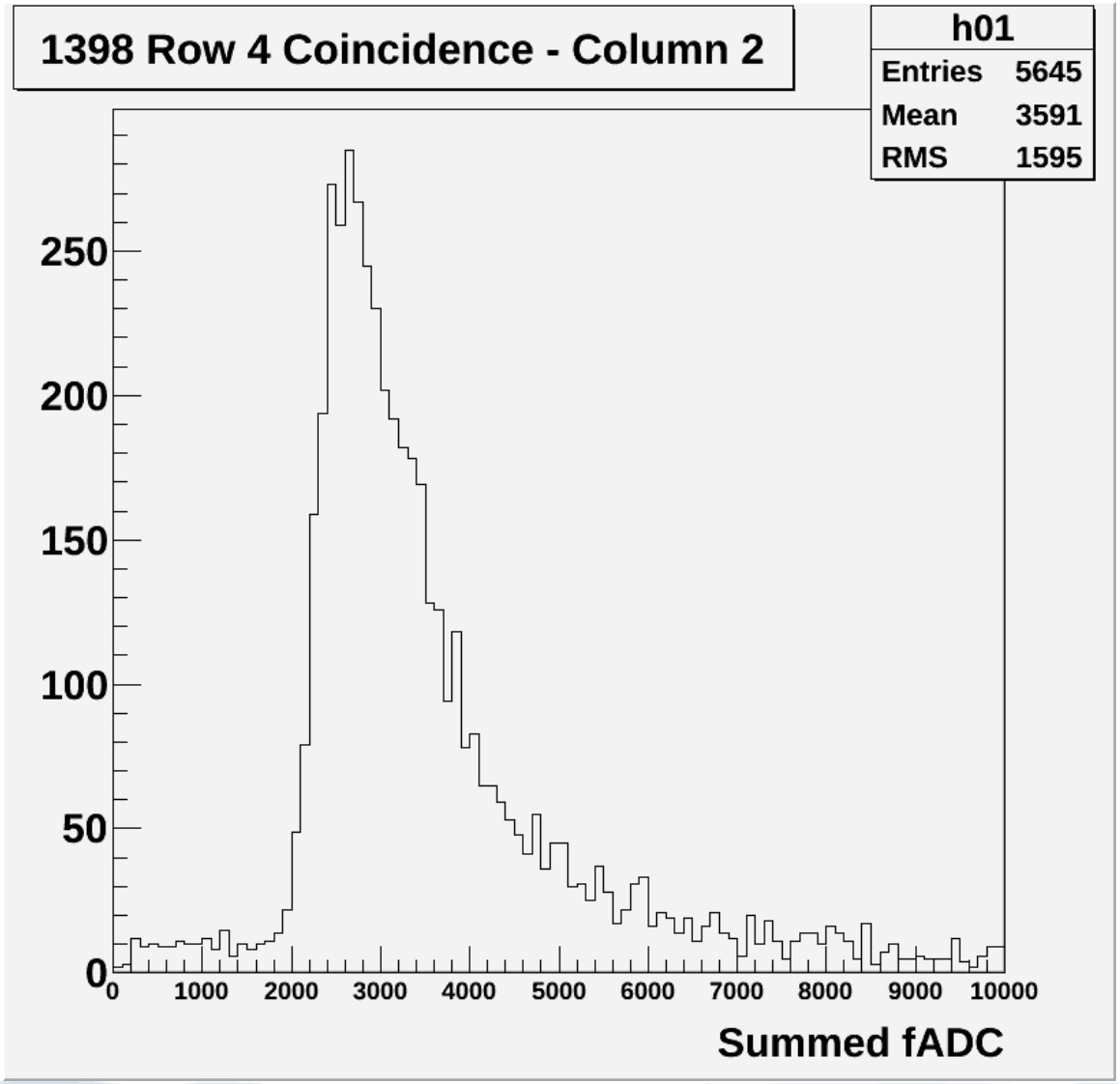
- Coincidence between the up and down stream in row 4 as well as in the adjacent row 3 cell

Row 4 Column 1 – Up/Down Coincidence



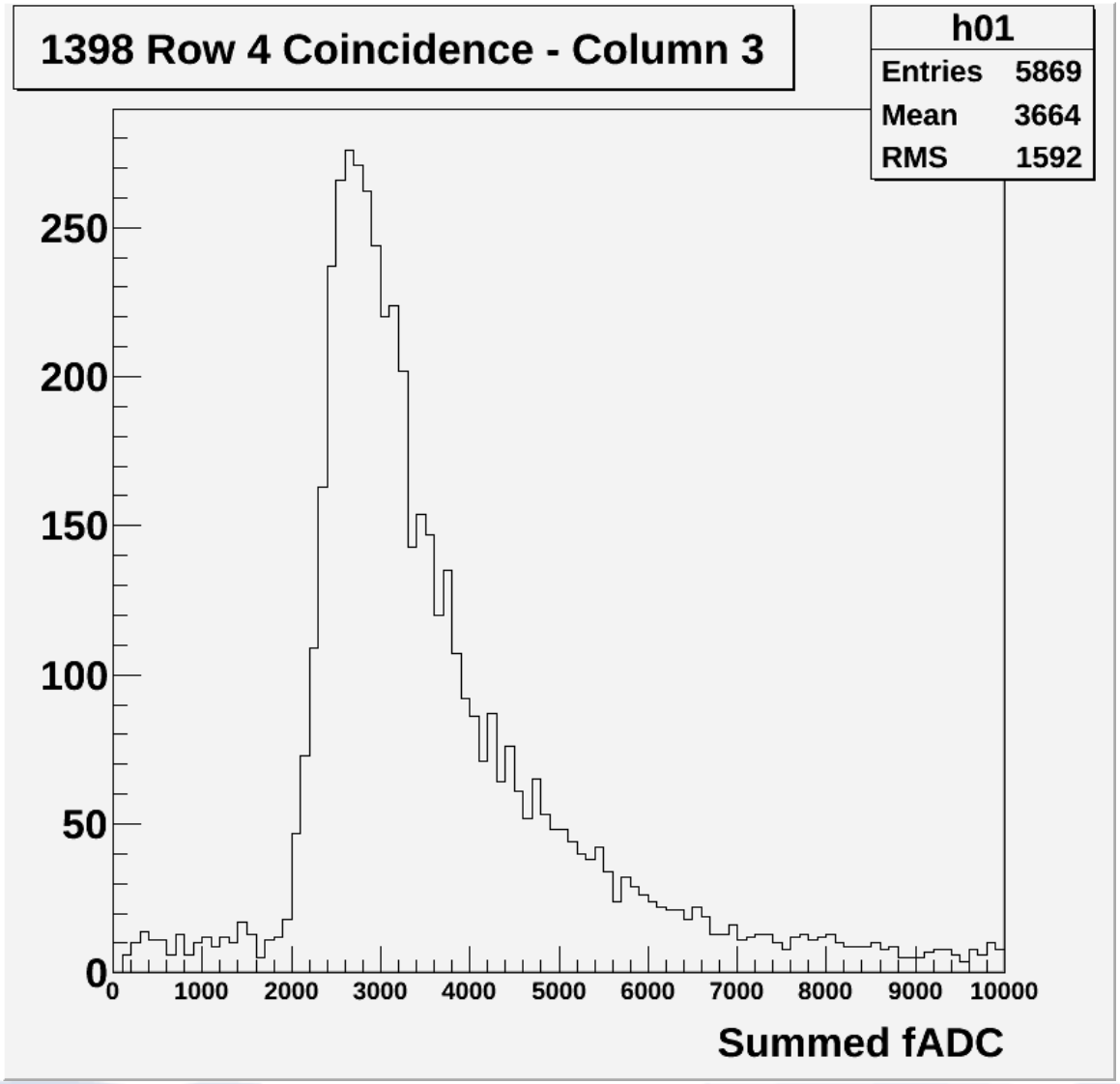
- Must have coincidence between the up/down stream in row 4 column 1
- Not exclusive cuts – can have events in multiple row 4 cells

Row 4 Column 2 – Up/Down Coincidence



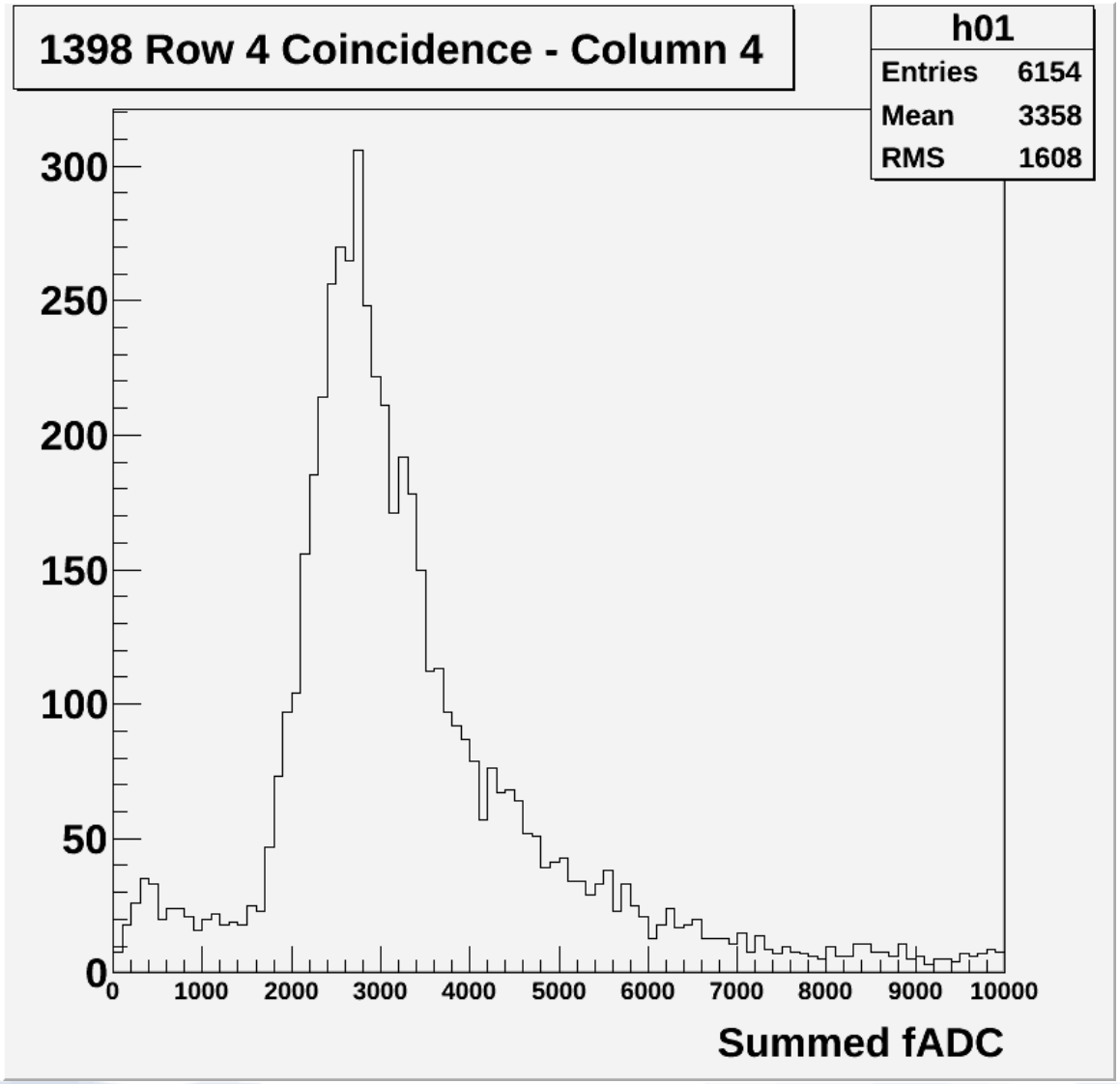
- Must have coincidence between the up/down stream in row 4 column 2
- Not exclusive cuts – can have events in multiple row 4 cells

Row 4 Column 3 – Up/Down Coincidence



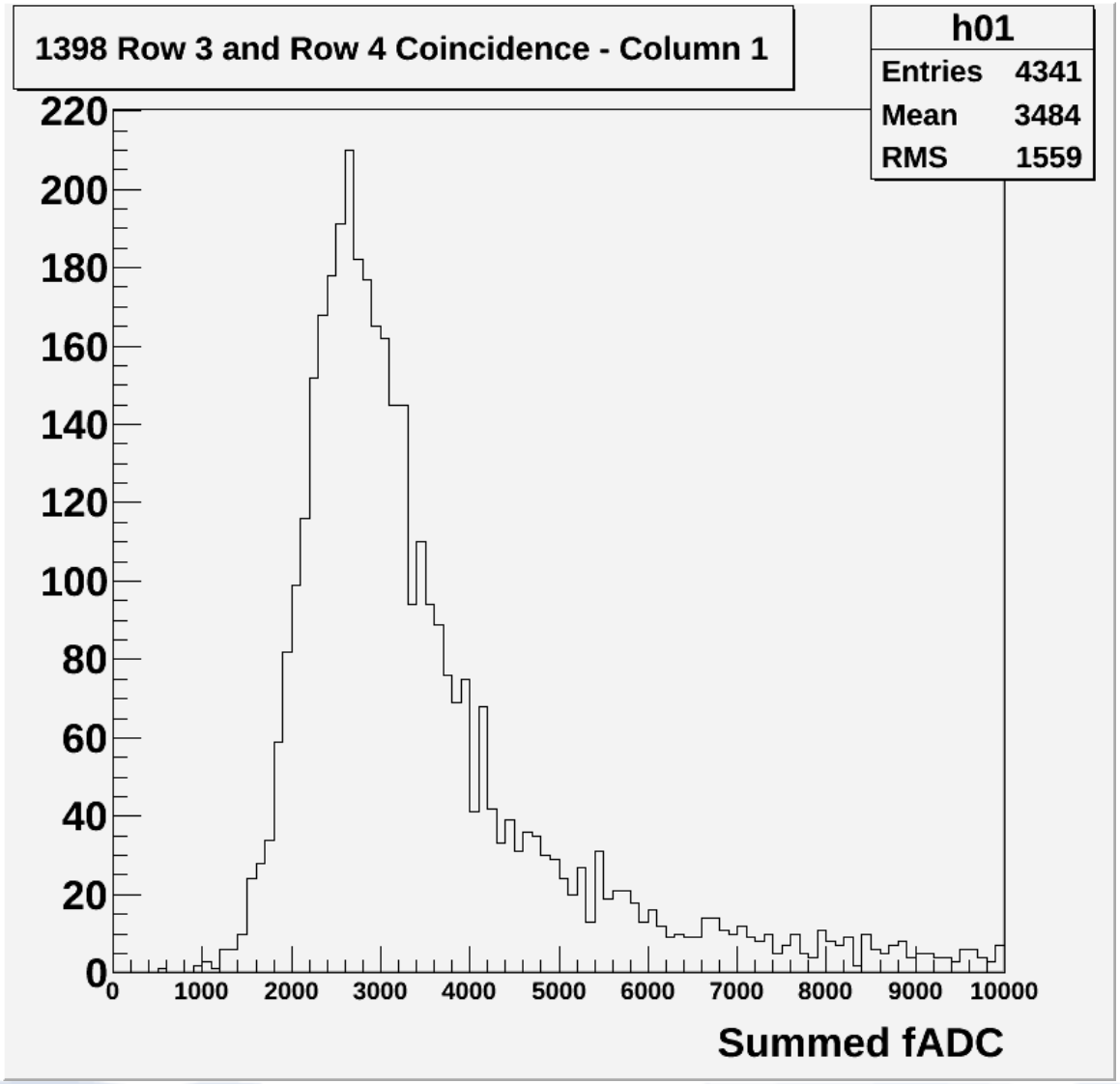
- Must have coincidence between the up/down stream in row 4 column 3
- Not exclusive cuts – can have events in multiple row 4 cells

Row 4 Column 4 – Up/Down Coincidence



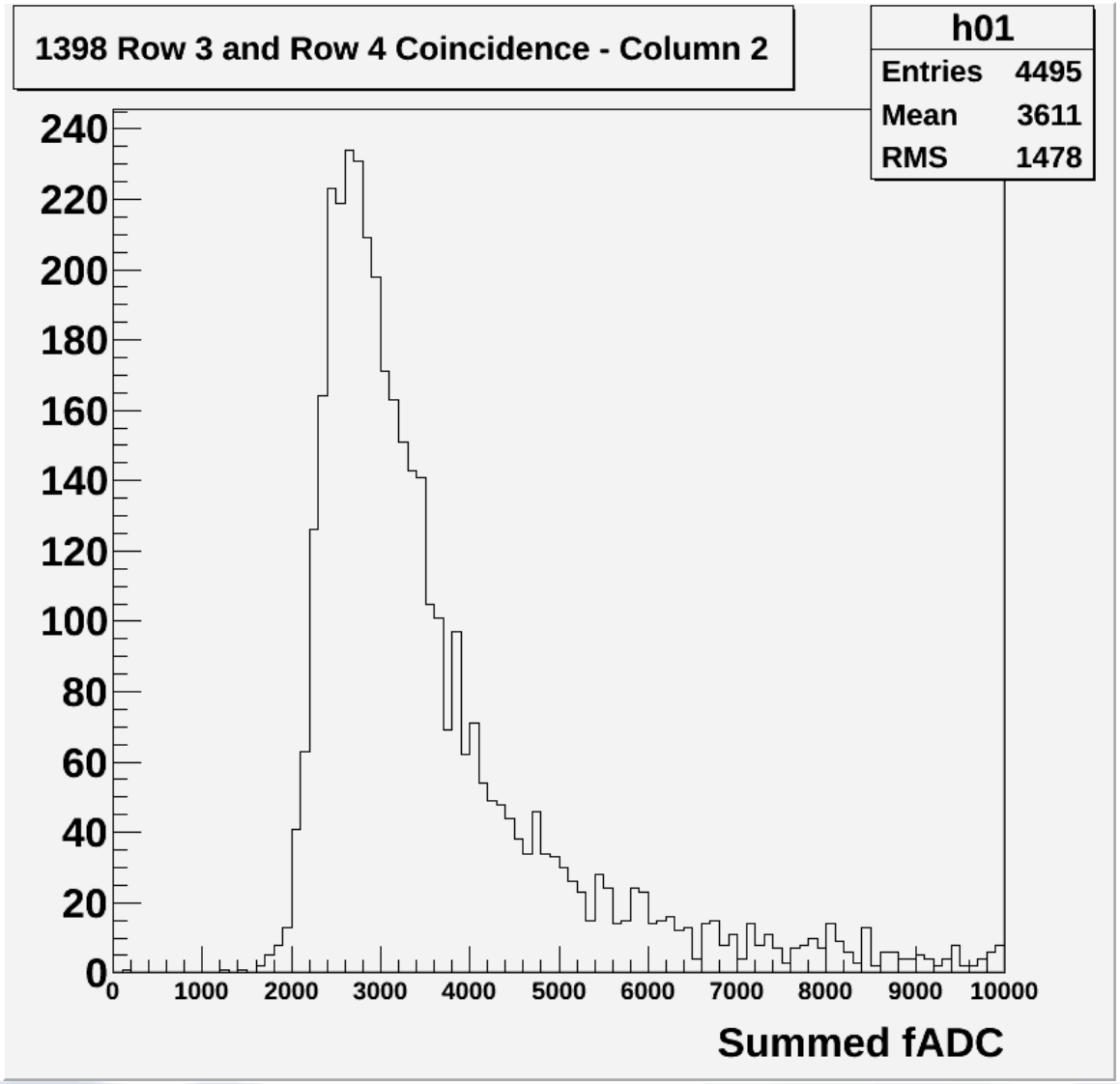
- Must have coincidence between the up/down stream in row 4 column 4
- Not exclusive cuts – can have events in multiple row 4 cells

Row 3 and Row 4 Column 1 – Up/Down Coincidence



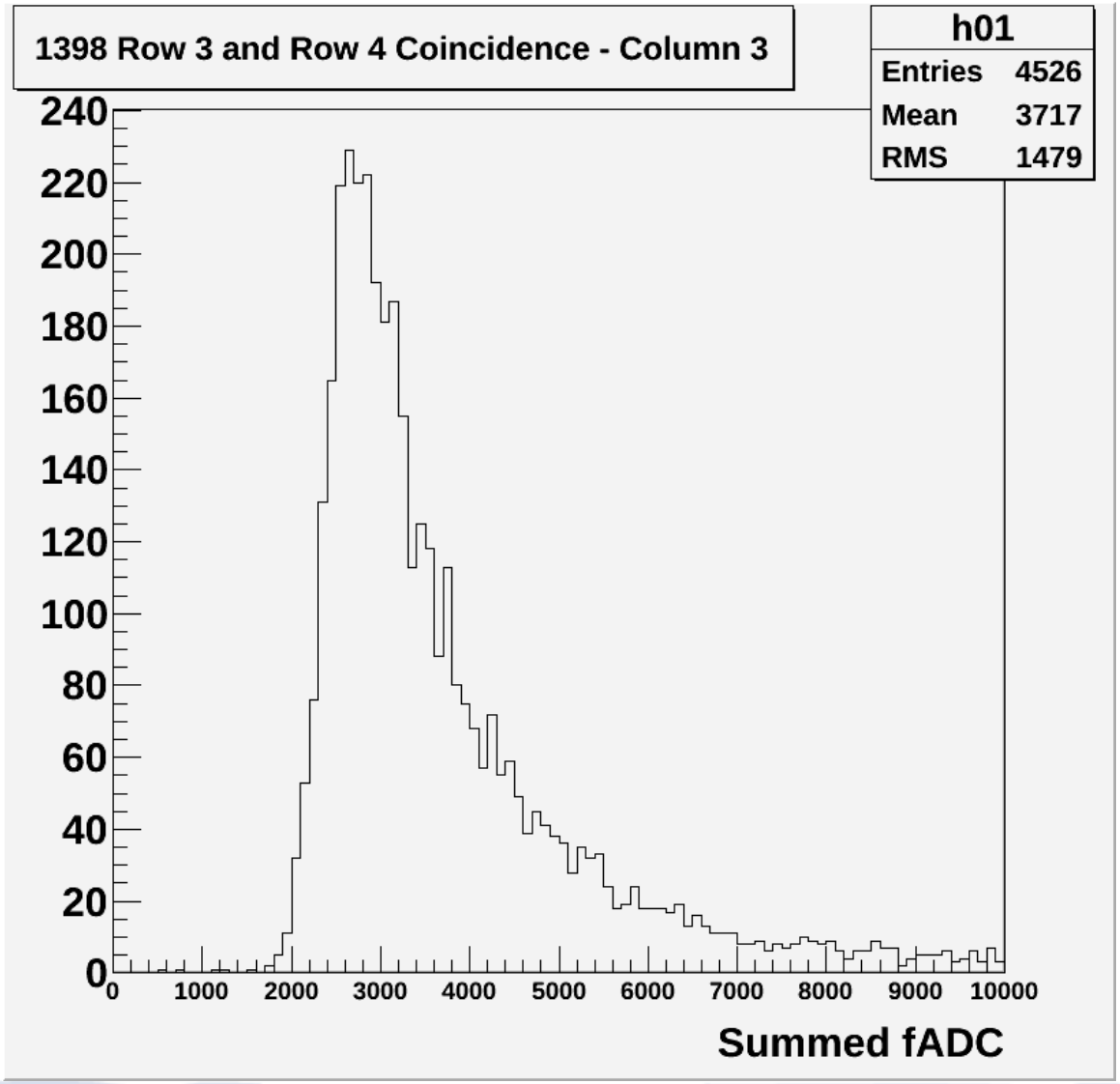
- Must have coincidence between the up/down stream in row 3 and row 4 column 1
- Not exclusive cuts – can have events in multiple row 4 cells

Row 3 and Row 4 Column 2 – Up/Down Coincidence



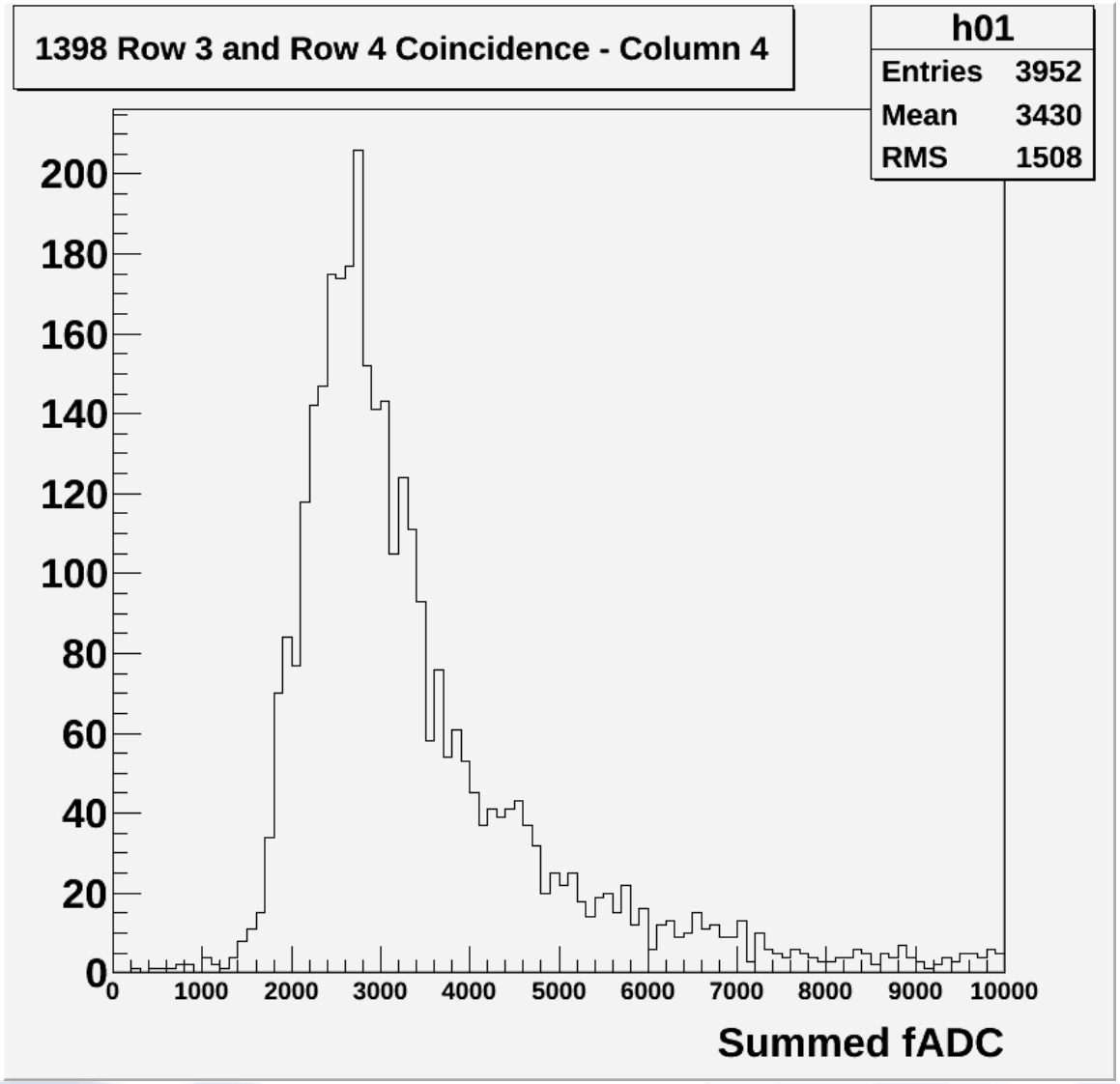
- Must have coincidence between the up/down stream in row 3 and row 4 column 2
- Not exclusive cuts – can have events in multiple row 4 cells

Row 3 and Row 4 Column 3 – Up/Down Coincidence



- Must have coincidence between the up/down stream in row 3 and row 4 column 3
- Not exclusive cuts – can have events in multiple row 4 cells

Row 3 and Row 4 Column 4 – Up/Down Coincidence



- Must have coincidence between the up/down stream in row 3 and row 4 column 4
- Not exclusive cuts – can have events in multiple row 4 cells

Single Column analysis

	Row 4
Cell	Events
1	5976
2	5645
3	5869
4	6154

	Row 3 and 4
Cell	Events
1	4341
2	4495
3	4526
4	3952

- Will look into why outside cells have more events in Row 4 columns
- Row 3 and 4 events look as expected
  - More events inside
  - Less on edges

Further Analysis

- Look at spectra of specific cells for a given cut not just sum
- Balance SiPMs with “clean cuts”