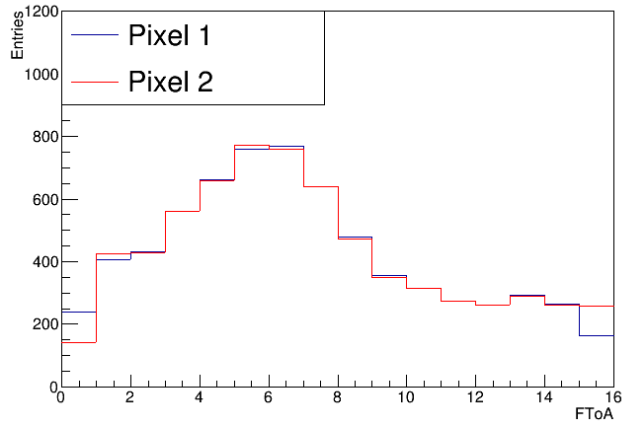
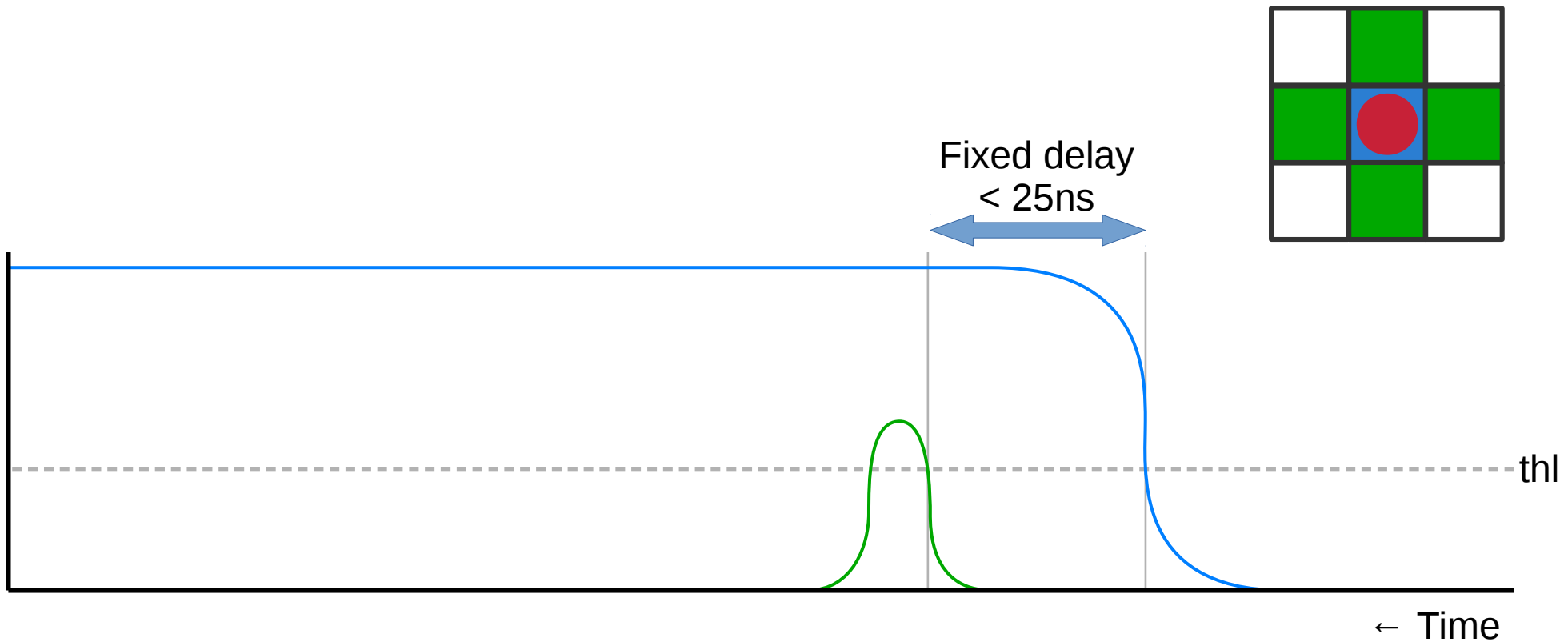


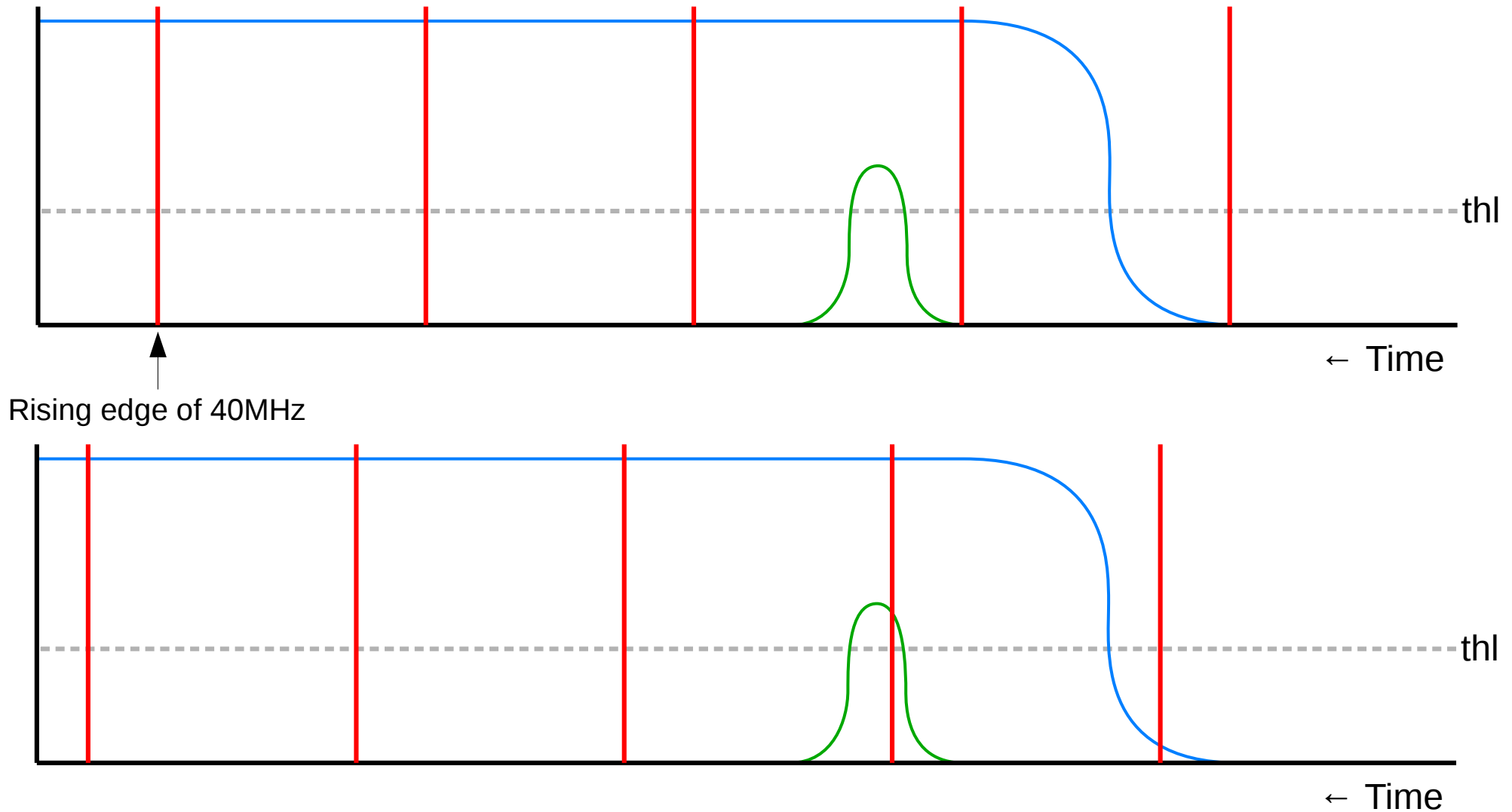
# Probable explanation for FToA dist.



Summary: Selection event of when a 3rd,4th,5th hit is measured

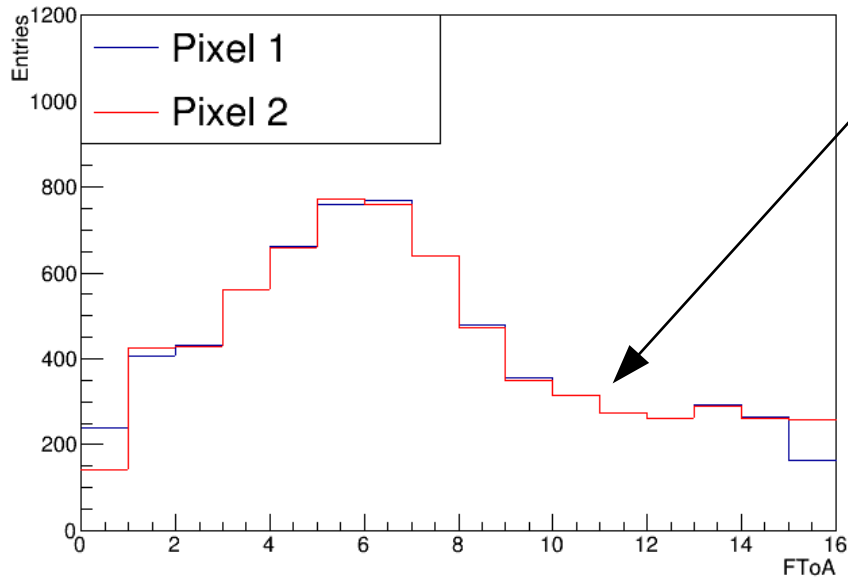


# Probable explanation for FToA dist.



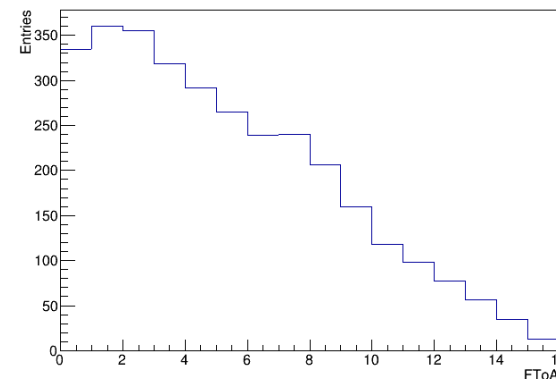
Conclusion: The number of hits depends on which FtoA bin the initial hit is found!

# Probable explanation for FToA dist.



Here it is more likely to have a total of 3 hits due to the 40MHz syncing with the signal of the 3<sup>rd</sup> pixel

The 3<sup>rd</sup> pixel is also more likely to have FToA of 1 due to it being close to the 40MHz rising edge

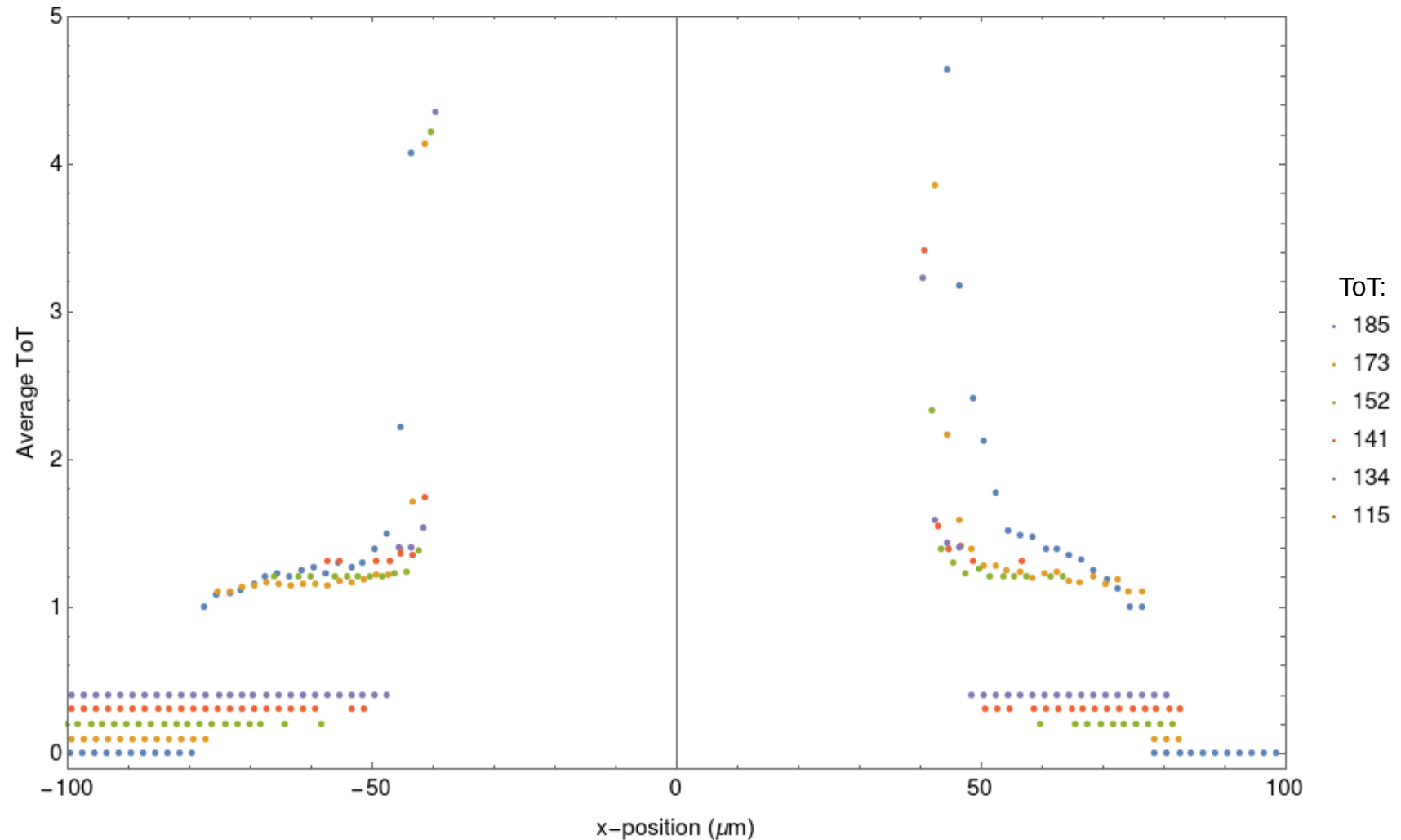


But now the question is what actually generates these short (<25ns) pulses that are faster than timewalk en do cross the threshold?

Is it crosstalk via chipboard or sensor? Look at testpulses on bare and and normal board

# Probable explanation for FToA dist.

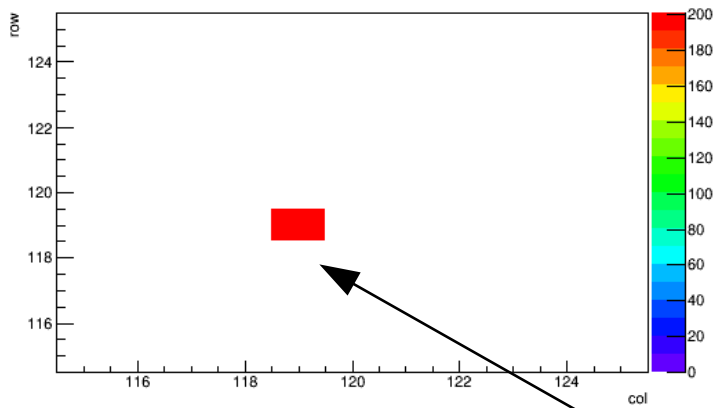
Further proof of this can be found by looking at the point in a ToT scan where hits with 1ToT are being measured for different intensities



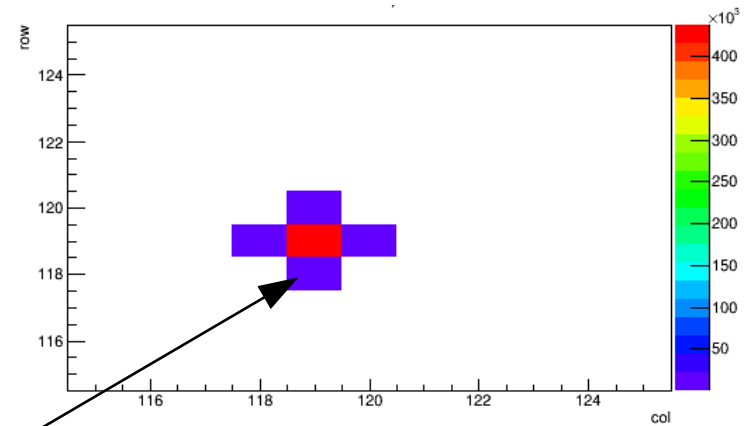
# Test pulses

Always firing 1 pixel (119,119)  
which is a corner of a superpixel)

Bare

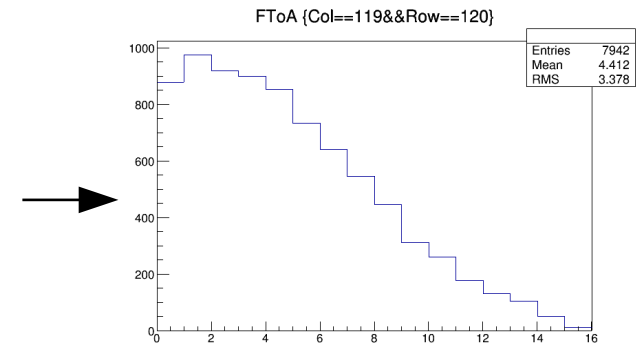


“Normal”



Signal seems to travel via the pad through the silicon  
to the next pad

Side note: FToA dist  
of 3<sup>rd</sup> hit is the same  
as with the laser!



# Test pulses

Plans:

Test pulse scan for different ToT to find the ToT at which the neighboring pixels fire?

...?

Fix problem with test pulses (200 pulses fired, 200 measured with high ToT, 200 measured with low ToT)

