

# L1 time difference calibration

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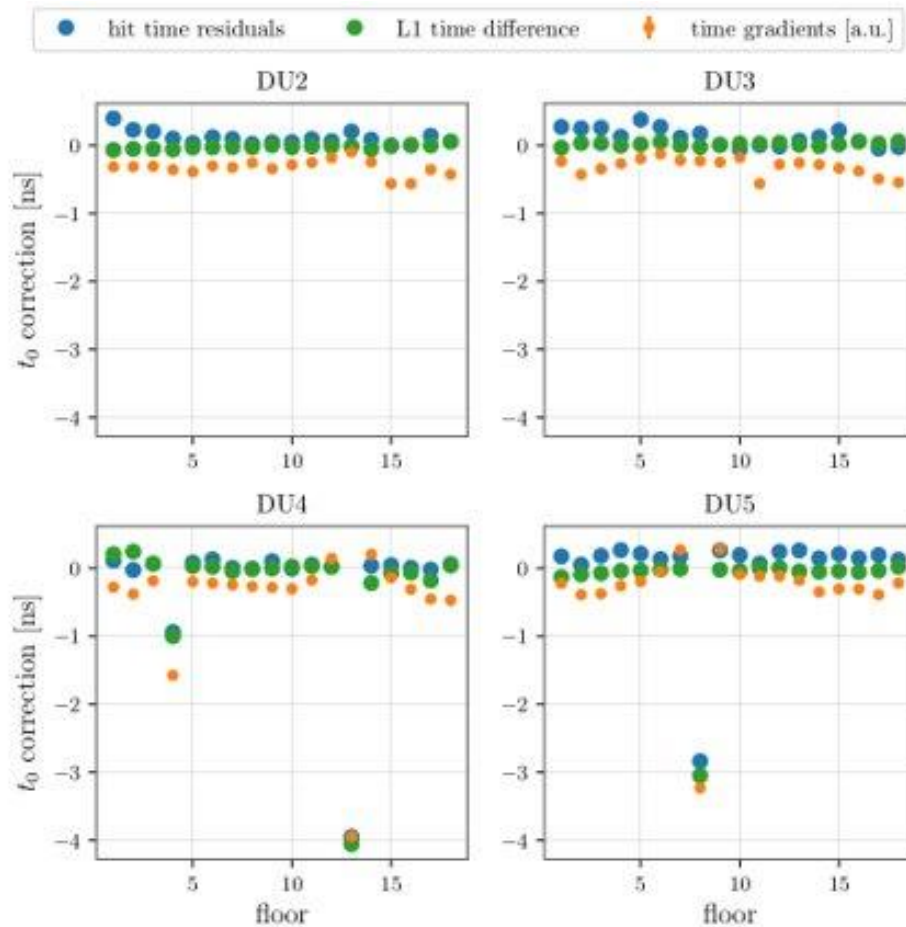
# Hit time calibration vs L1dt calibration: modification b

Adjustment:

DU4DOM4 +1ns

DU4DOM13 +4ns

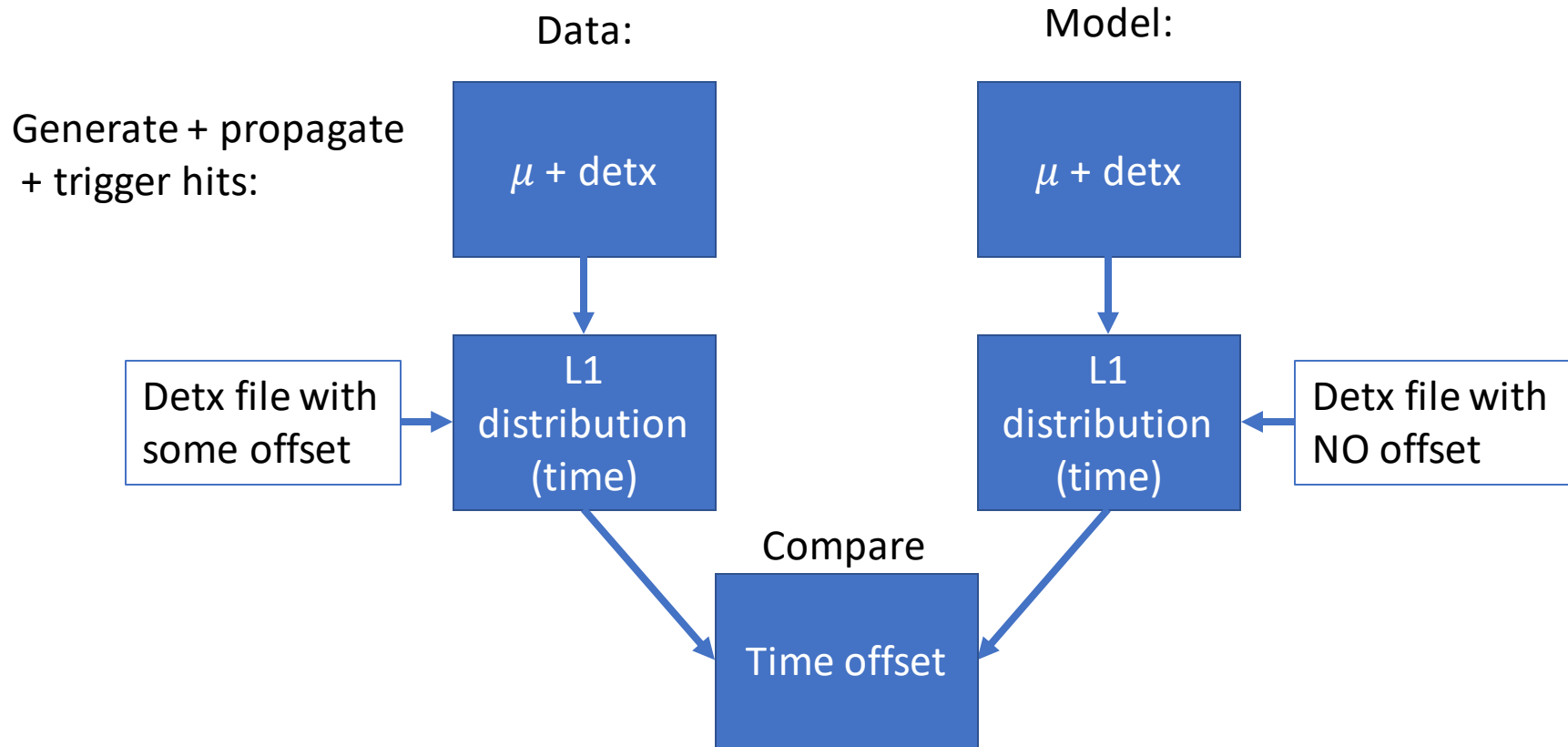
DU5DOM8 +3ns



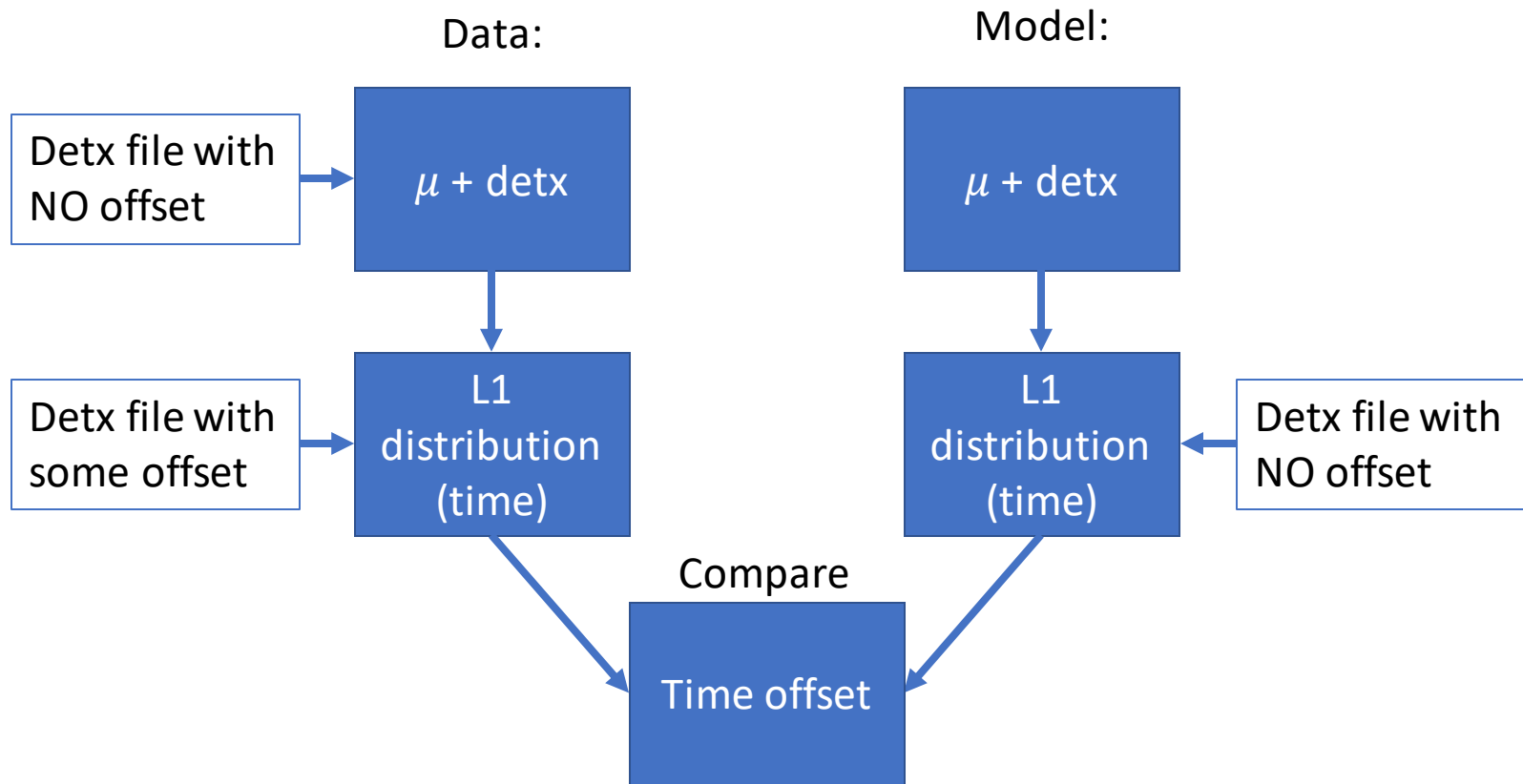
# Approach

- Check all configurations of data\_processing (this creates the muon hits)
- Check if files are copied properly (lyon->stbc)
- Check mathematics of method (already works in some cases, so should be fine)
- Check implementation of fit

# Schematic of L1dt fit

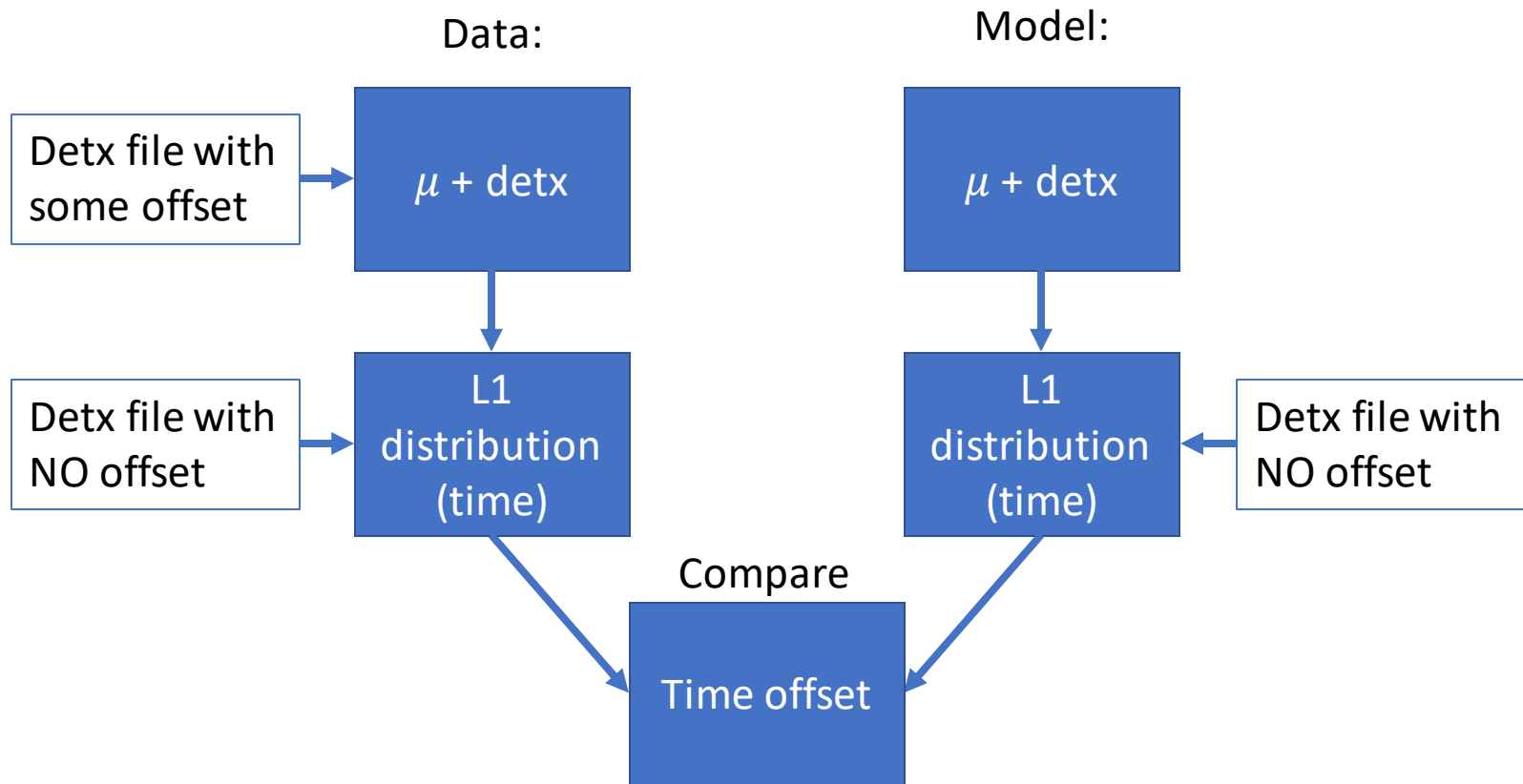


# Schematic of L1dt fit: Situation A



Finds the time offsets: they are introduced in the L1 creation by detx  
Finds NO spatial effects in time offsets: can not introduce in L1

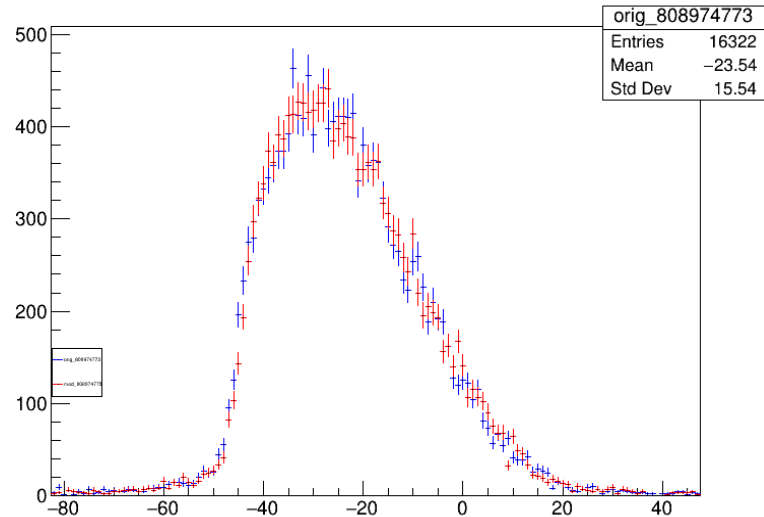
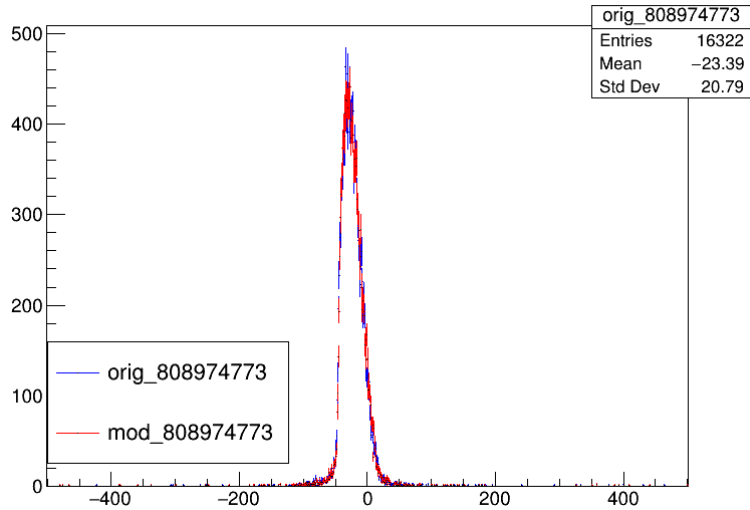
# Schematic of L1dt fit: Situation B



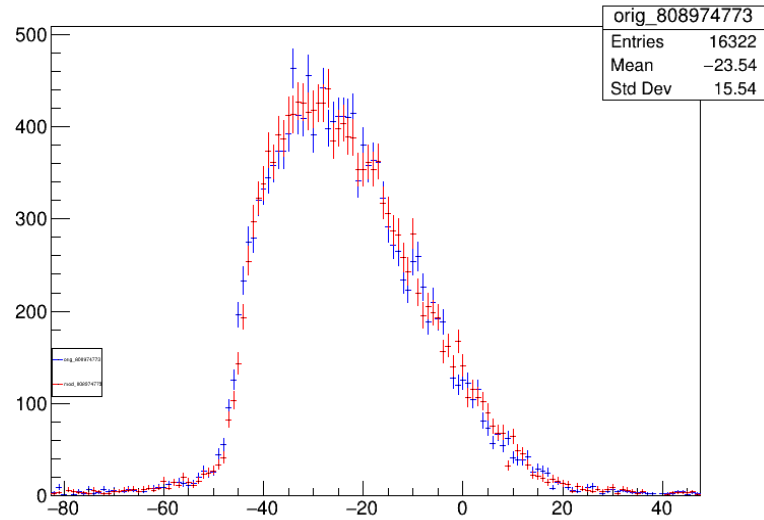
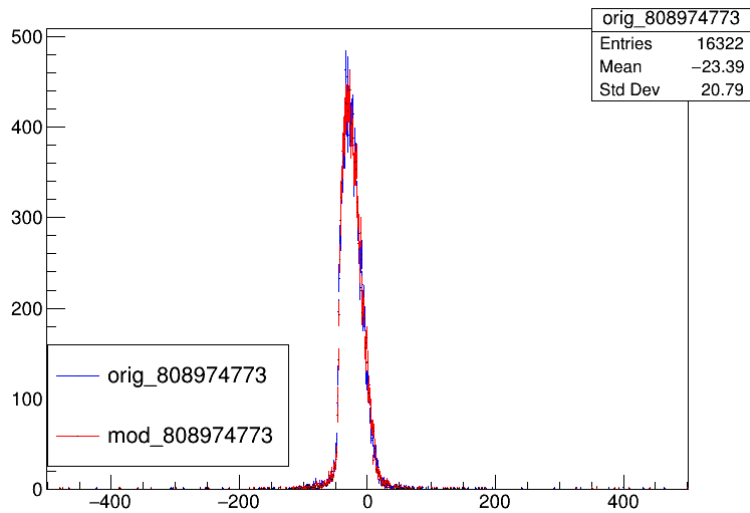
Finds the time offsets: they are introduced in the gen/trig step

Finds spatial effects in time offsets: they are introduced in the gen/trig step

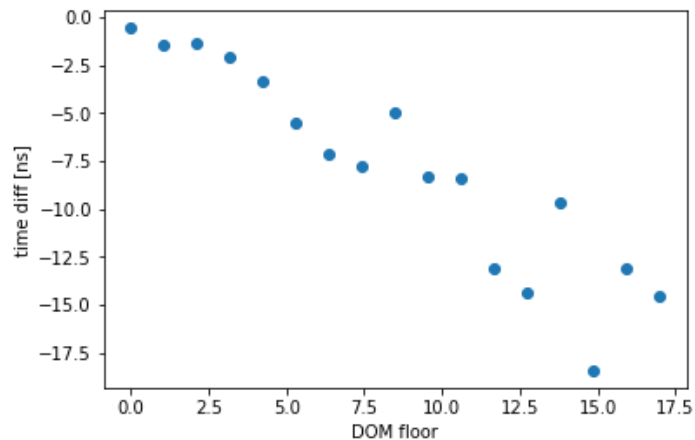
# Distribution different? Eyeing it is not enough!



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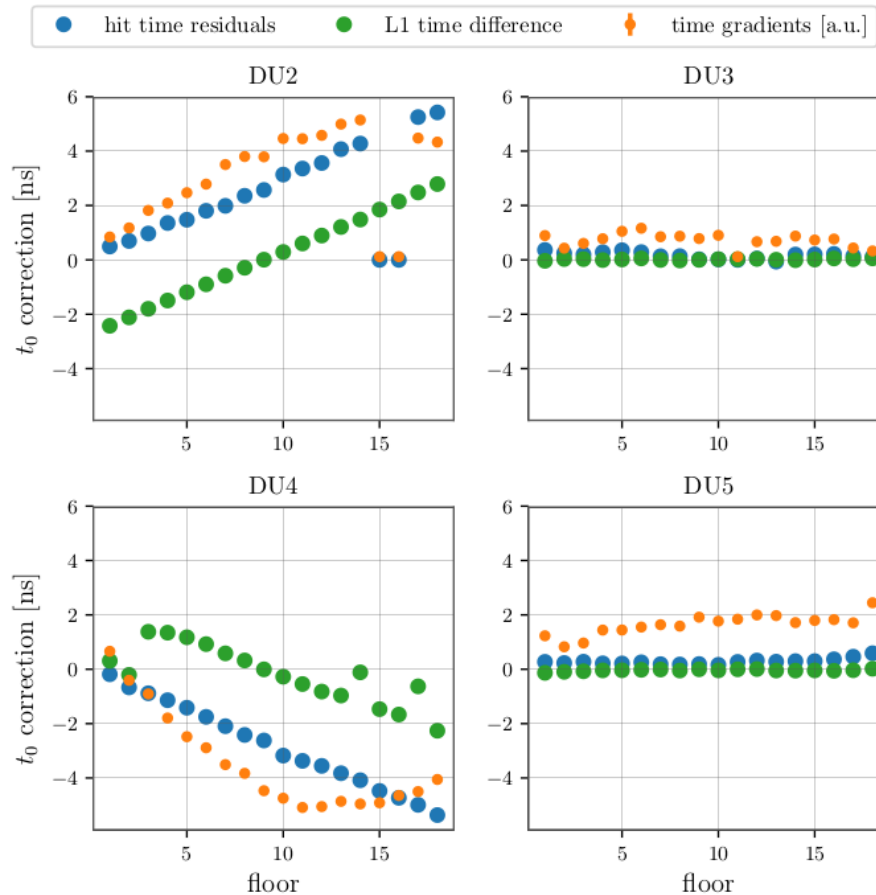


Plot:  
mean of dist1 – mean of dist 2





# Hit time calibration vs L1dt calibration: time offset equivalent to stretch



DU2 -0.3ns for each  
DOM pair  
DU4 +0.3ns for each  
DOM pair

NB: DOM9 is chosen as reference in L1dt

# L1dt calibration: stretch detector

