Plan at last meeting

Separation efficiency calculation with different number of fired detector

Time condition

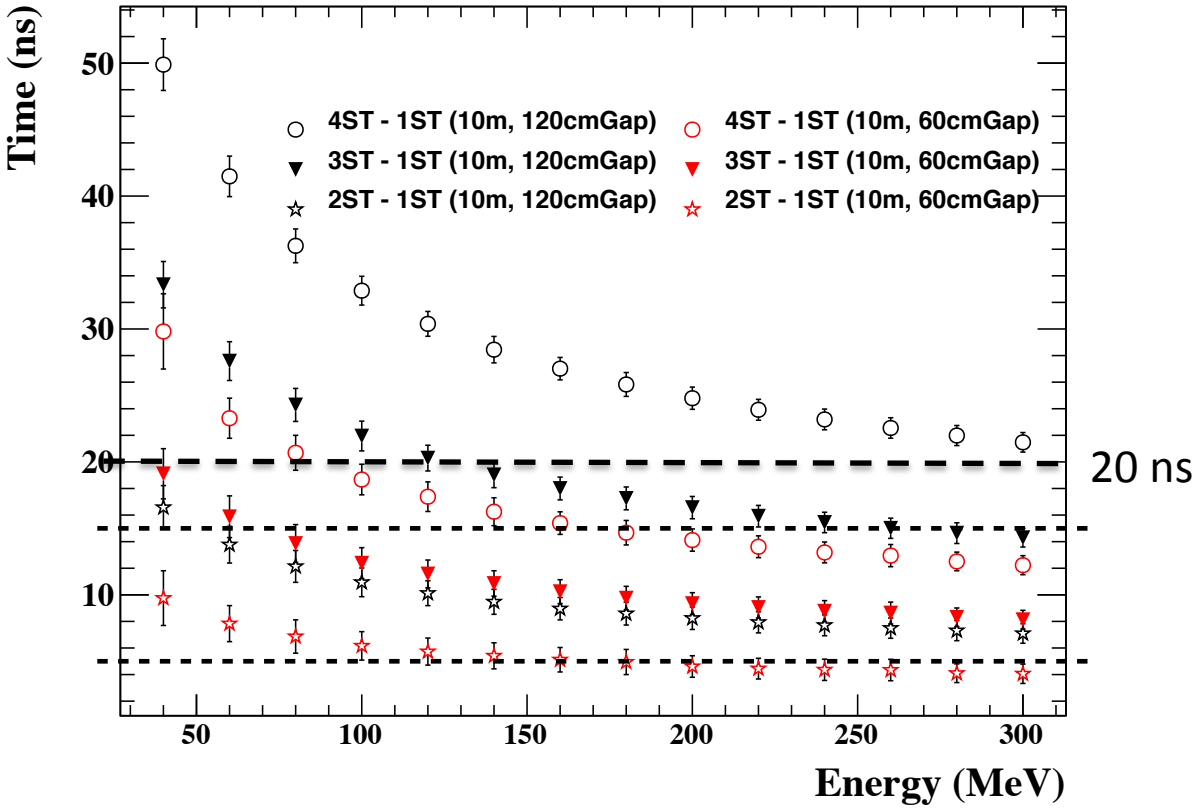
condition 1 : time condition same station : 5ns , different station : 20 ns
condition 2 : fitting function by using arrival time distribution
condition 3 calculate least time from d/v

2015 7. 9 lab meeting

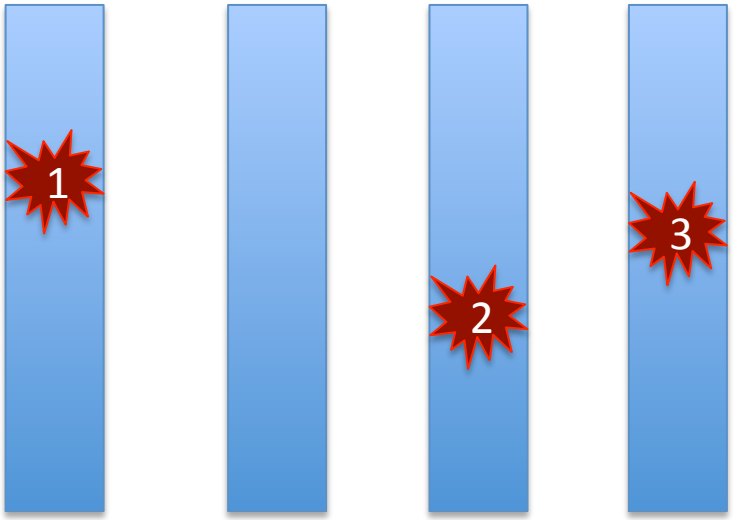
Time condition 1 problem

Same station : < 5ns
Different station : 0 < t < 20 ns

At low energy region, arrival time is larger than 20ns



20 ns

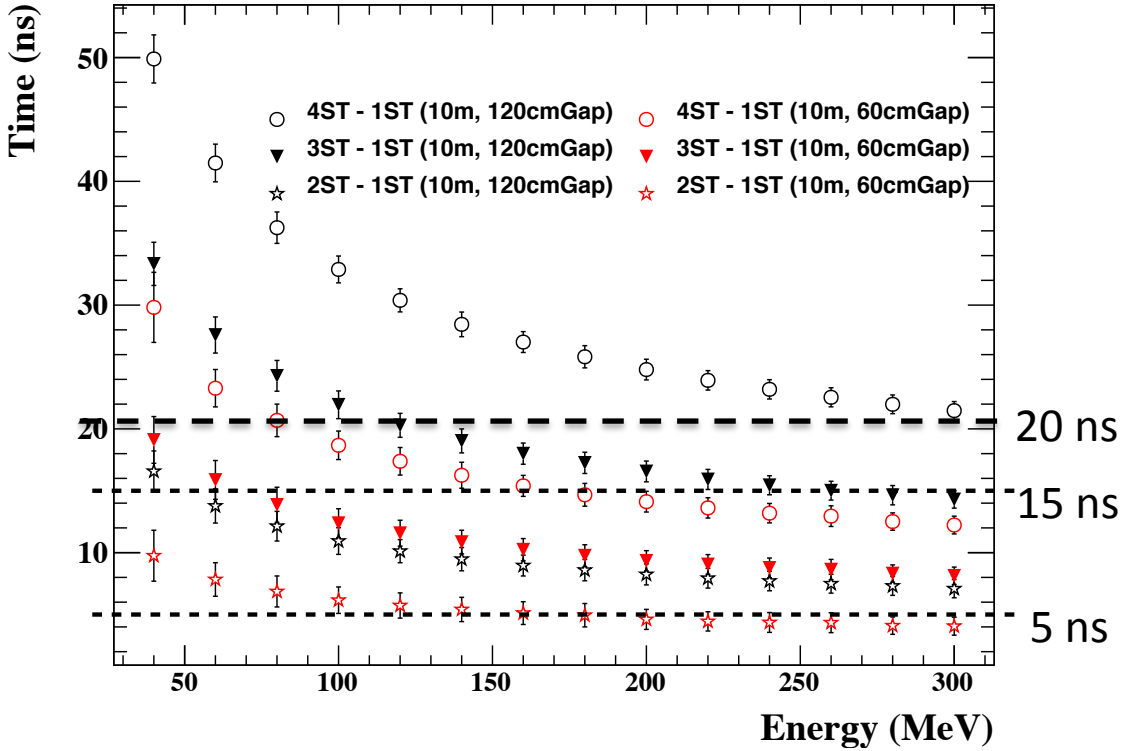


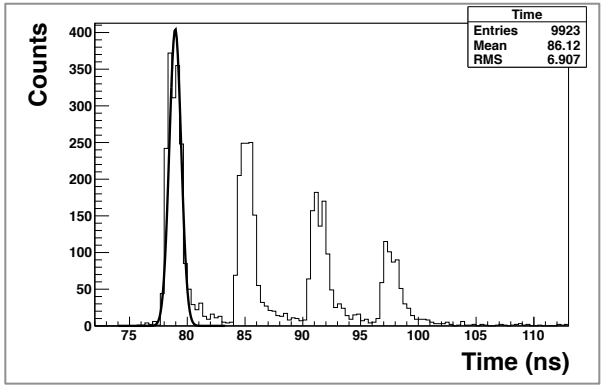
Time condition 2 problem

Same station : < 5ns
Different station : time upper limit : t+2sigma
time lower limit : t-2sigma

E_0 : neutron energy getting from first hit time

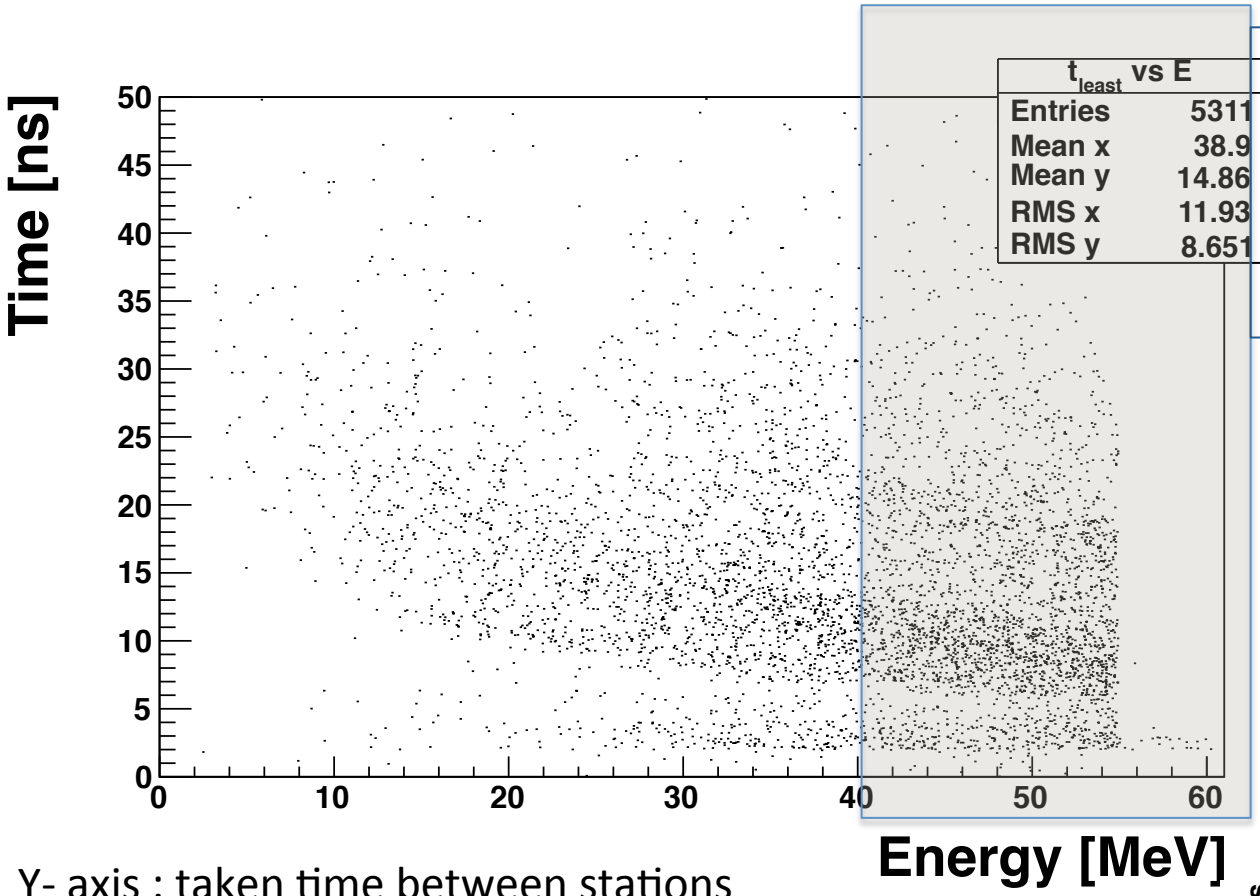
If neutron lose their energy significantly at position 1, neutron would not arrive at 2 point in time.





Time condition is inappropriate

Time condition 3

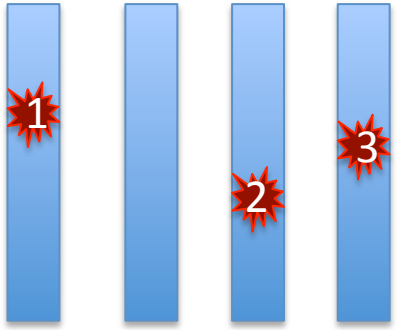


Same station : < 5ns

Different station :

lower time limit :least time

upper time limit : time ove

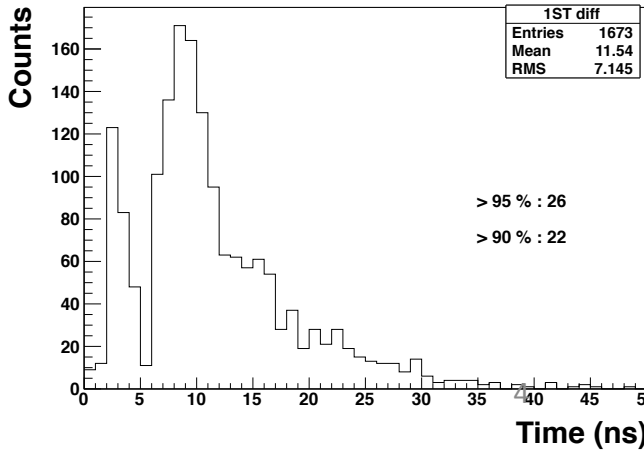


Y- axis : taken time between stations

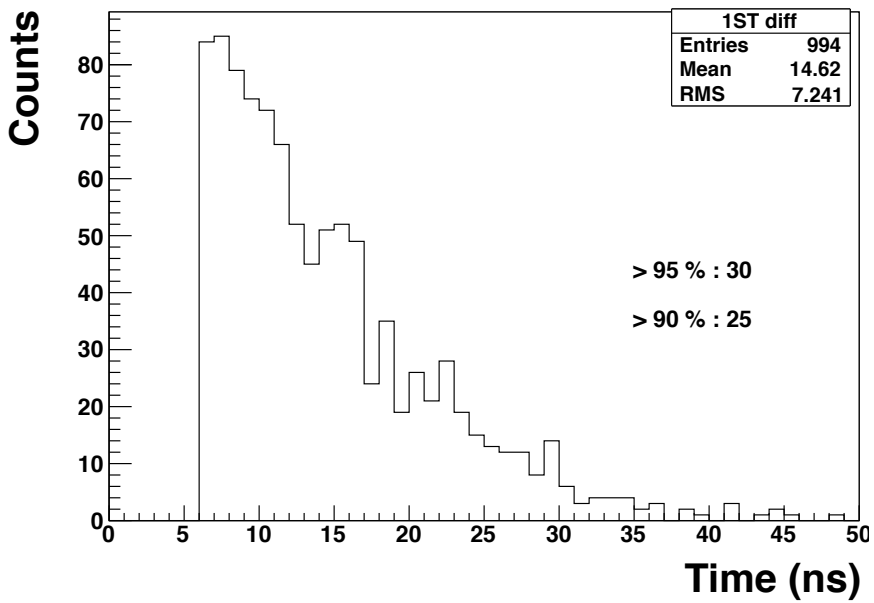
X –axis : calculated energy with E_0 and dE

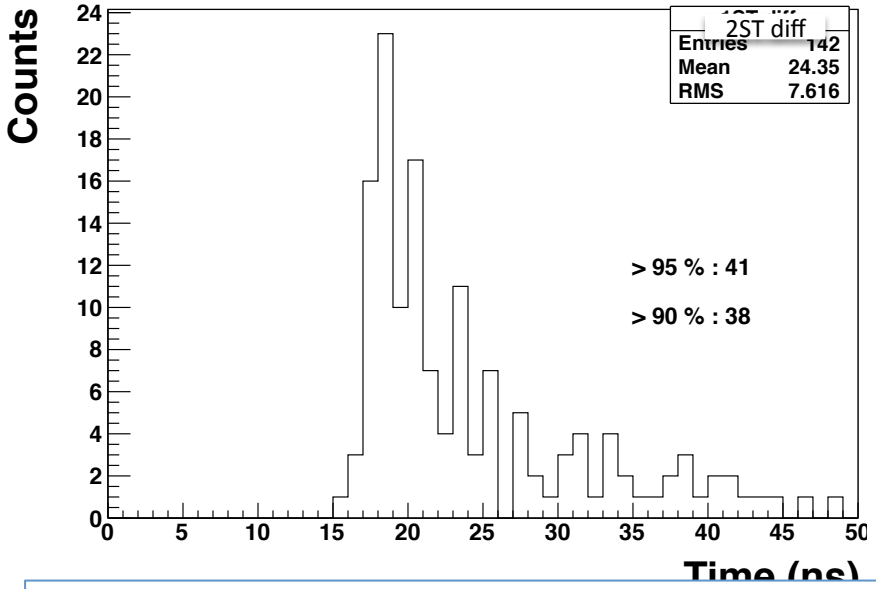
V = sqrt(1 -1/(KE/939.6 +1)^2)

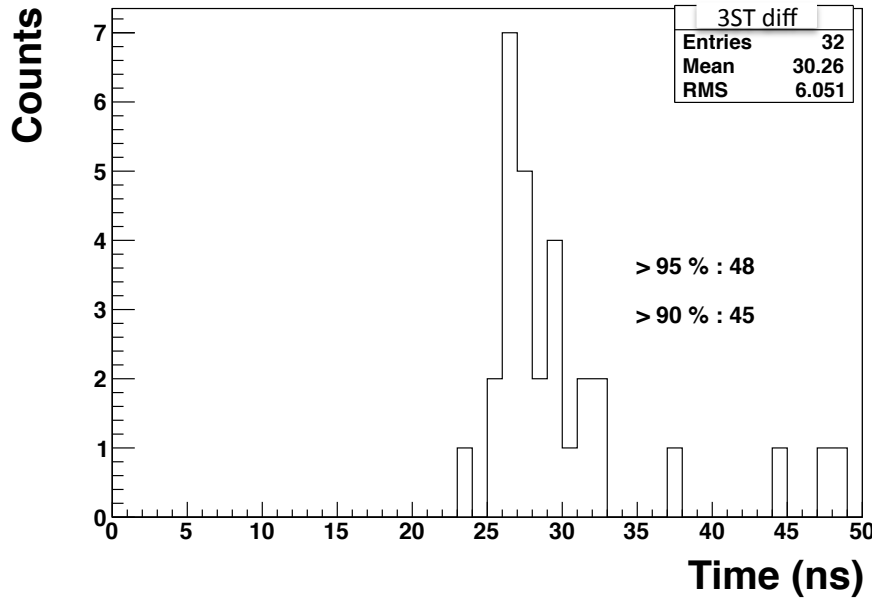
least time = dis/V

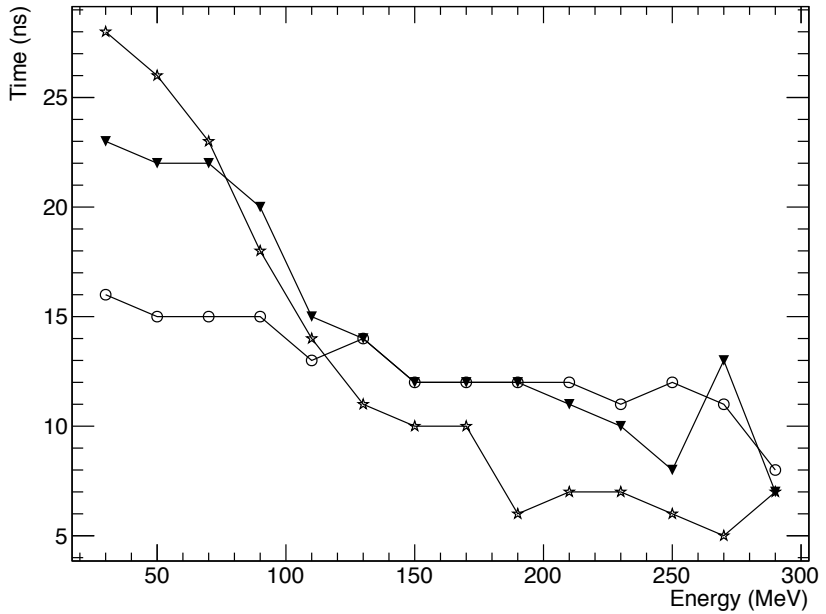


Time distribution with station difference

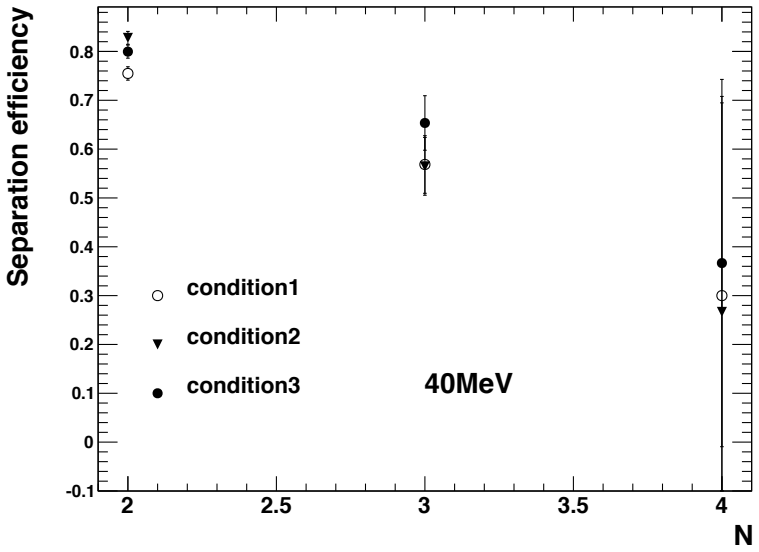


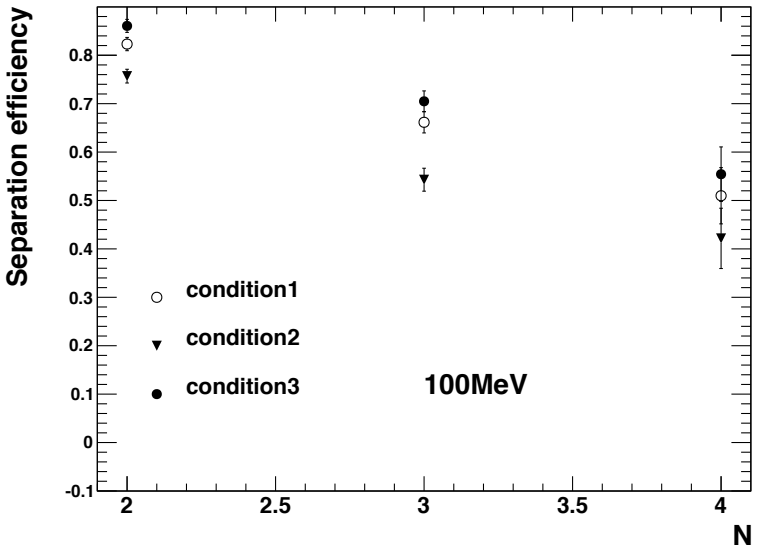


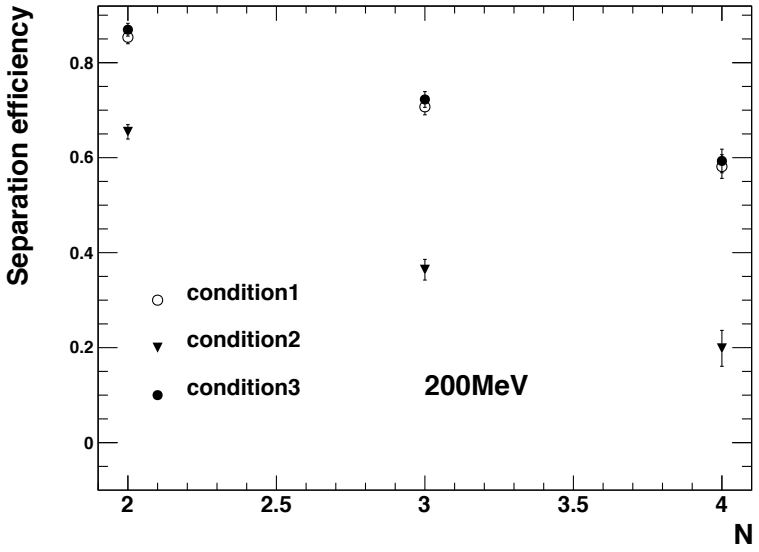


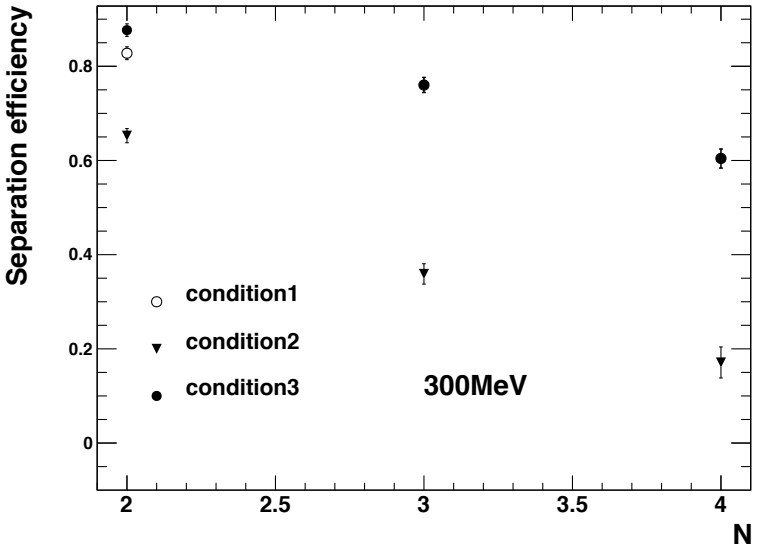


Separation efficiency with different time conditions









=> time condition2 is inappropriate

Plan

Separation efficiency calculation with 2n, 3n, 4n
by using time condition 1 and 3