

Some comments

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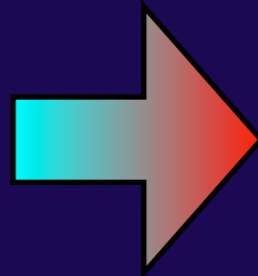


- We need new idea to improve the mu-e conv. experiment, which beyond the COMET/Mu2E.
- For this, we need a pure and mono-energetic muon beam with an intensity more than $10^{12}\mu$ /s.
- We should re-consider about the experimental design for this.
 - PRISM-FFAG is just one possibility with some unsolved issues.
- For what?
 - to study the BR dependence on the stopping target material, if COMET/Mu2e discover the signal
 - to search the event, if COMET/Mu2e dose not discover the signal
- When?
 - Just after the COMET/Mu2e at J-PARC/Project-X
 - modification of PRISM-FFAG
 - re-design of a phase rotator
 - At NF/MC era
 - use the cooled muon beam and decelerate to 40MeV/c
 - ...

Further Background Rejection to $< 10^{-18}$

mono-energetic muon beam

Muon DIO &
Beam flush

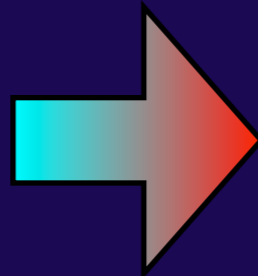


narrow muon beam
spread

1/10 thickness
muon stopping
target

pure muon beam

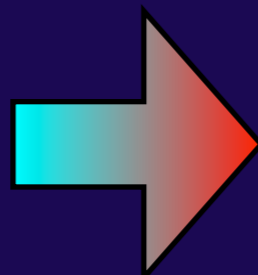
Pion
background



long muon beam-line

muon storage
ring

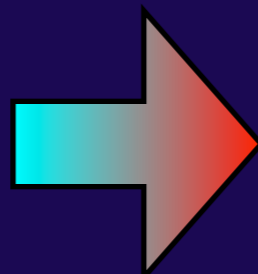
Beam-related
Background



Extinction at muon
beam

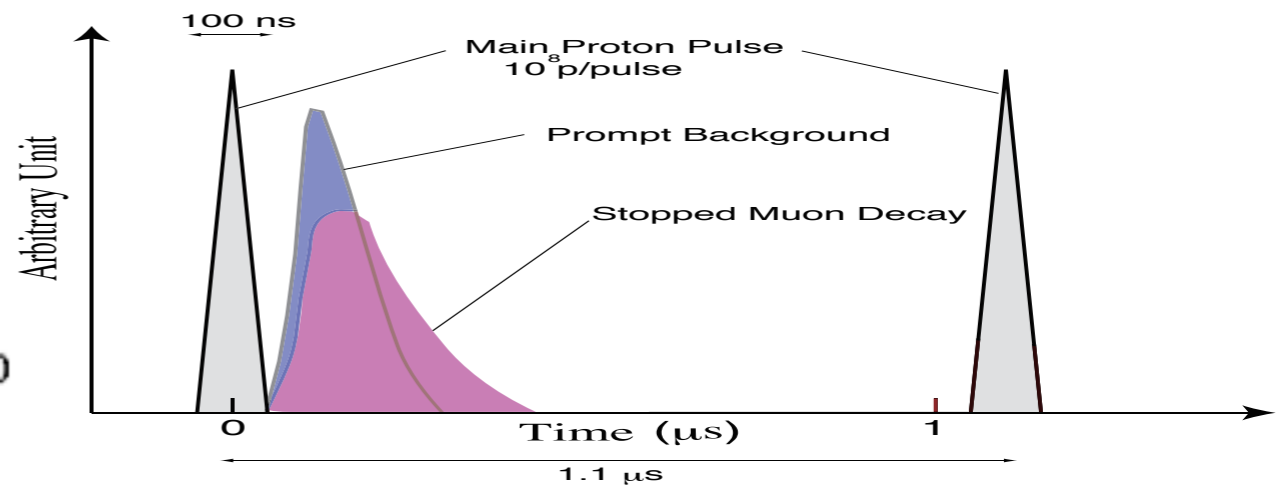
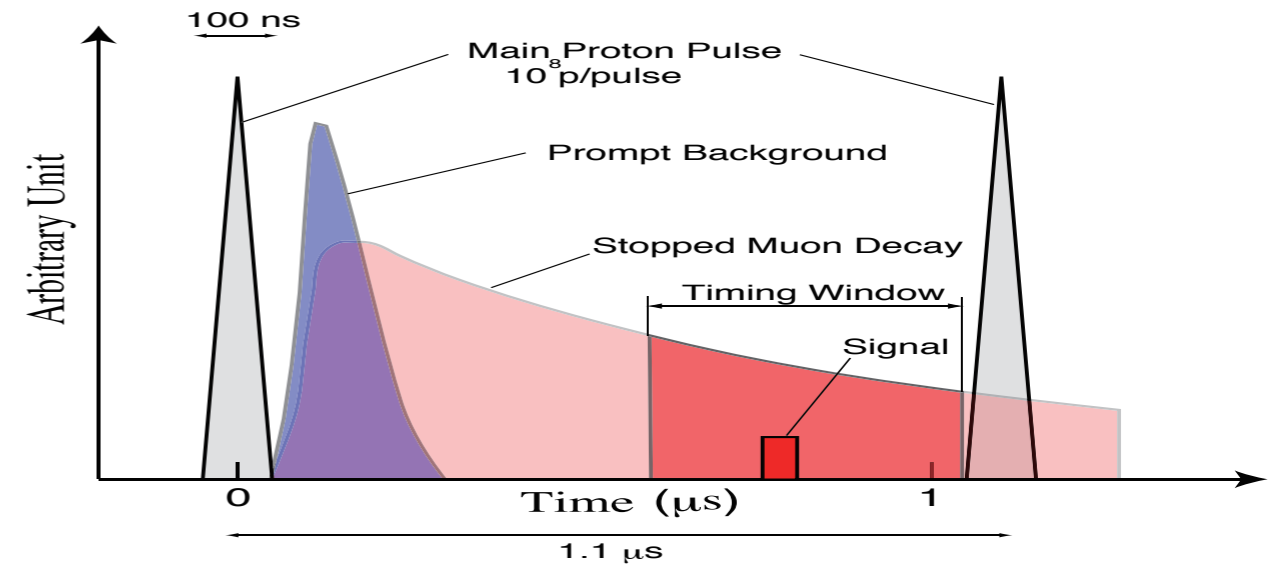
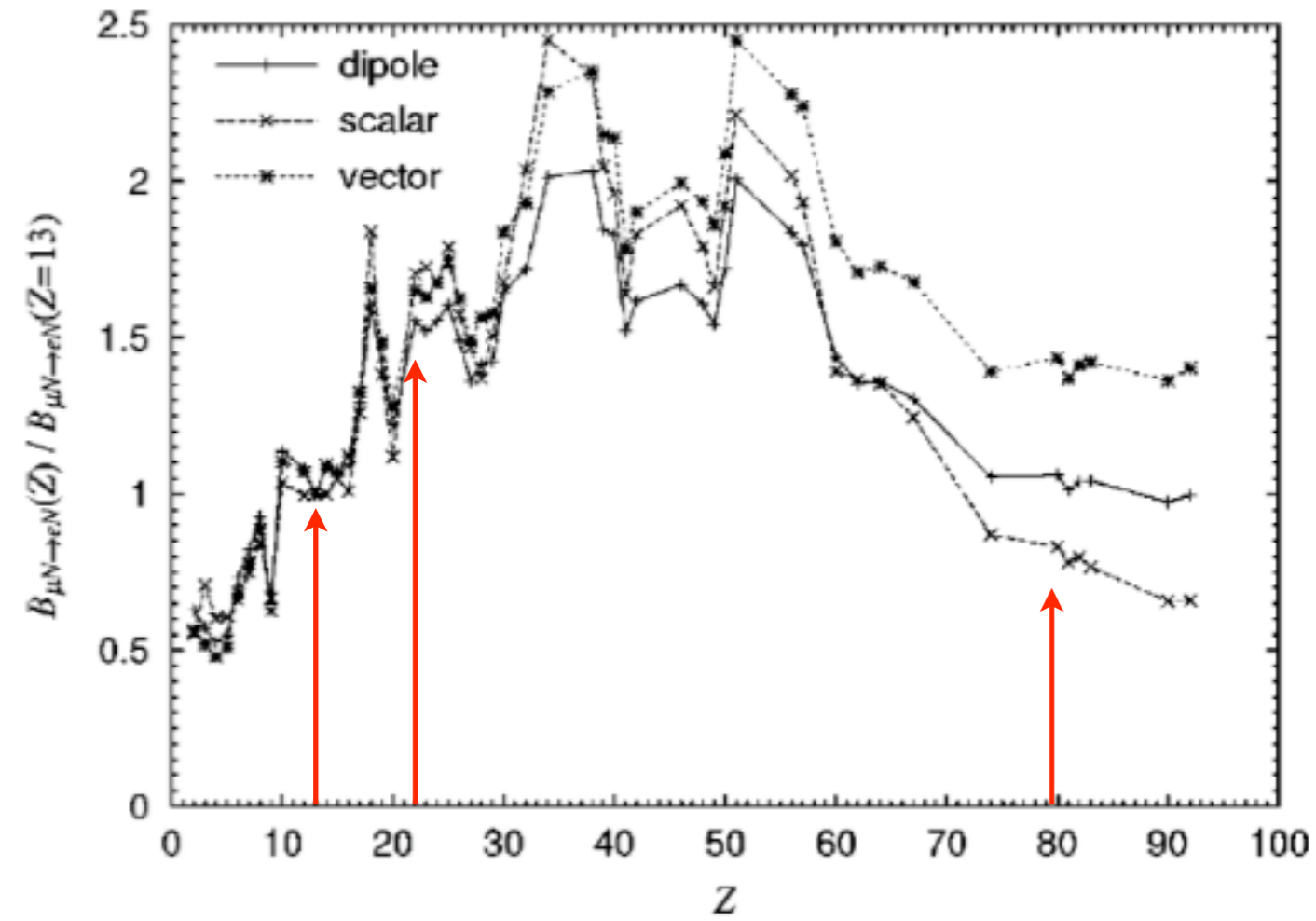
fast kickers

Cosmic-ray
background



low-duty running

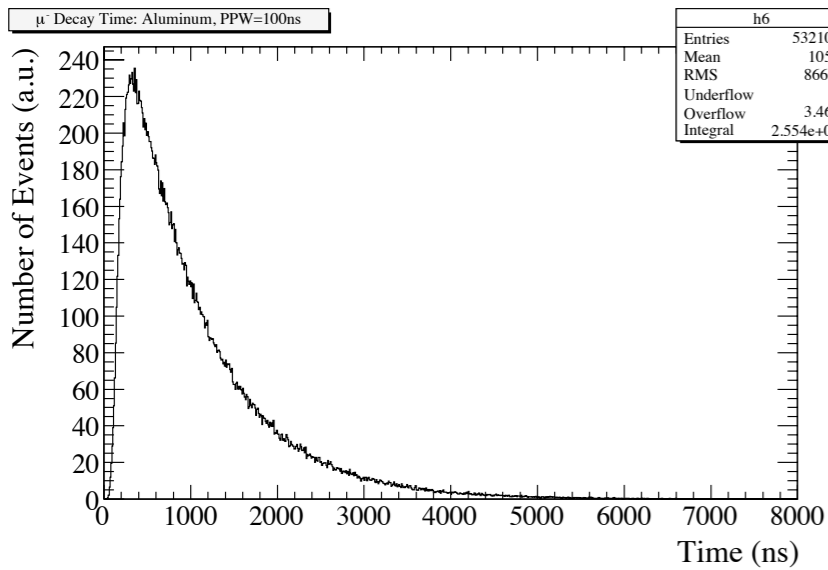
100 Hz rather
than 1 MHz



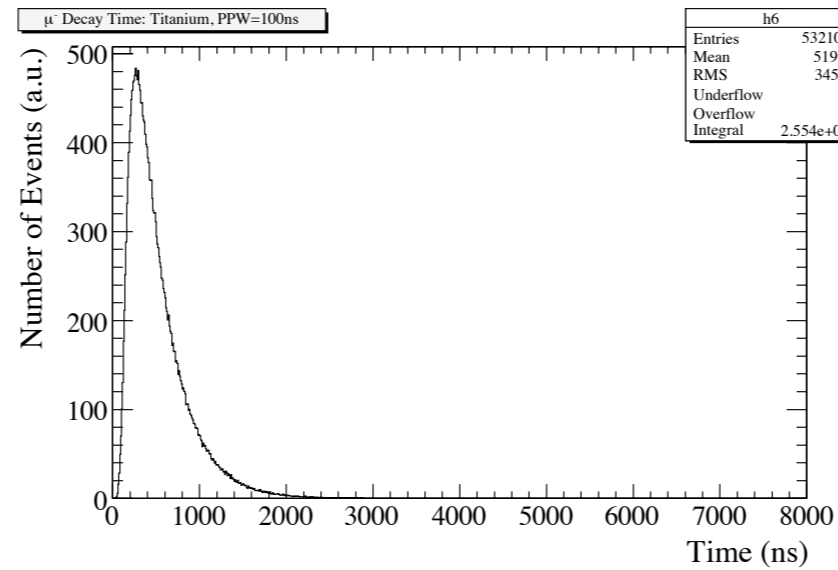
for Al, Ti, and Au



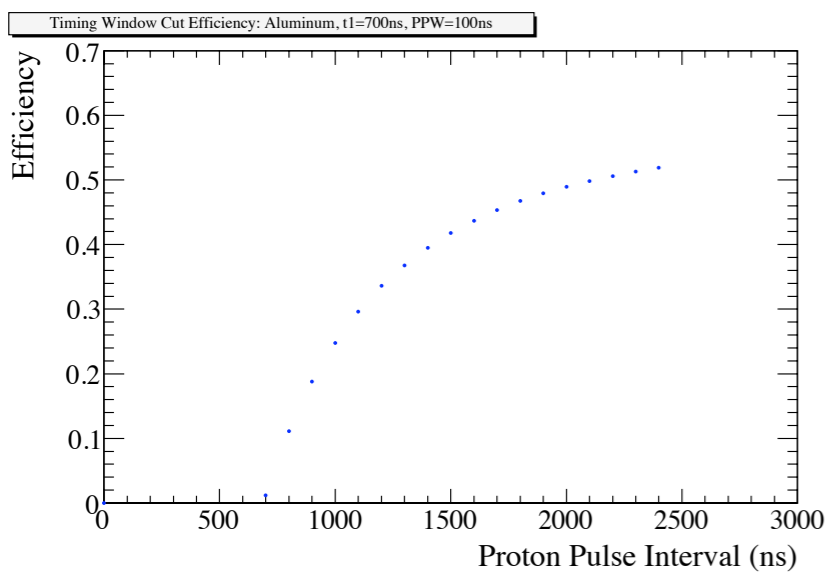
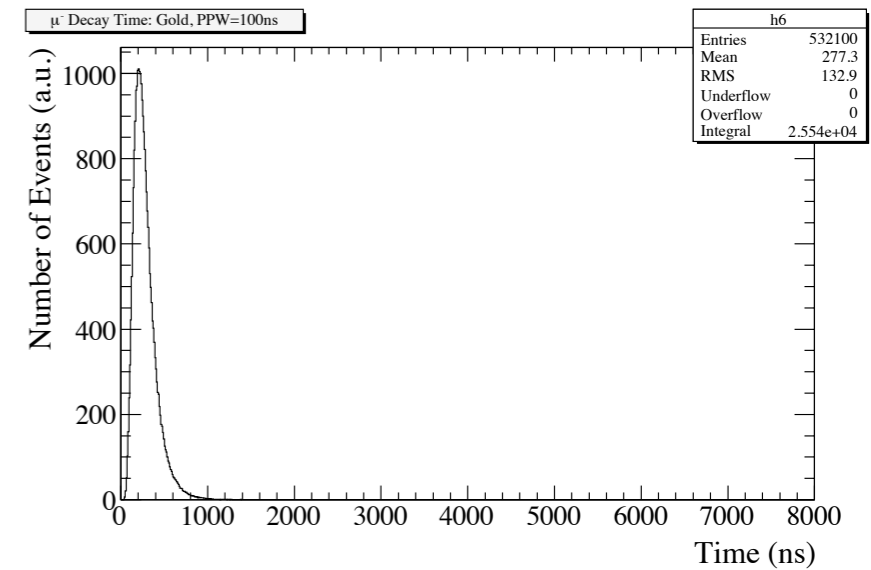
Al ($\tau=864\text{ns}$)



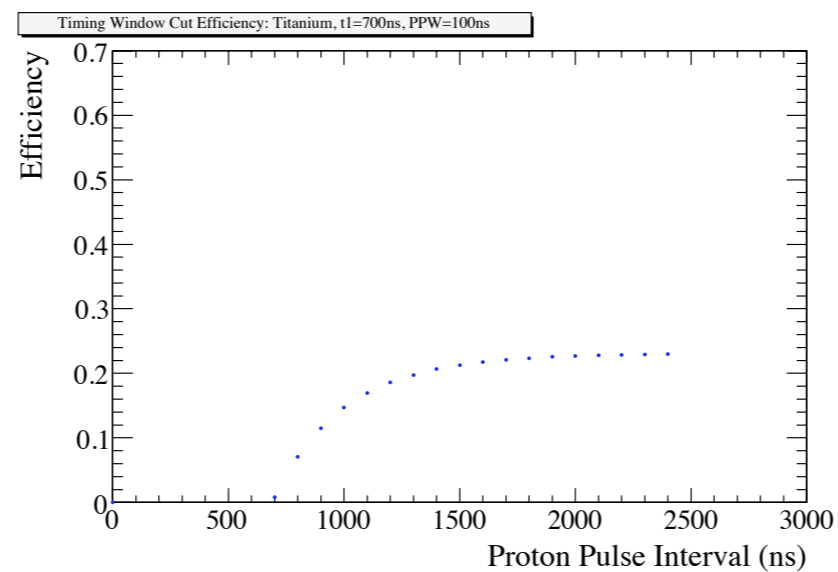
Ti ($\tau=330\text{ns}$)



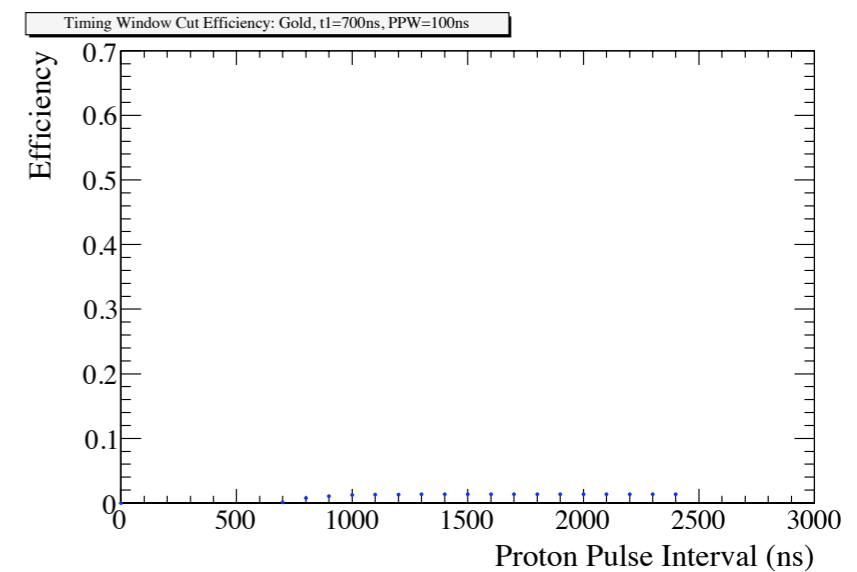
Au ($\tau=88\text{ns}$)



effi. = 0.37



effi. = 0.20



effi. = 0.01

$t_1=700\text{ns}$, $T_p=1314\text{ns}$

mu-e conv. experiment at NF era

