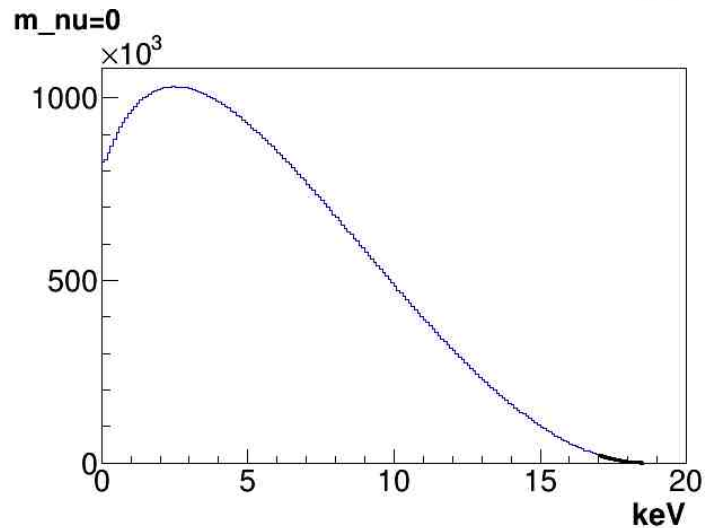
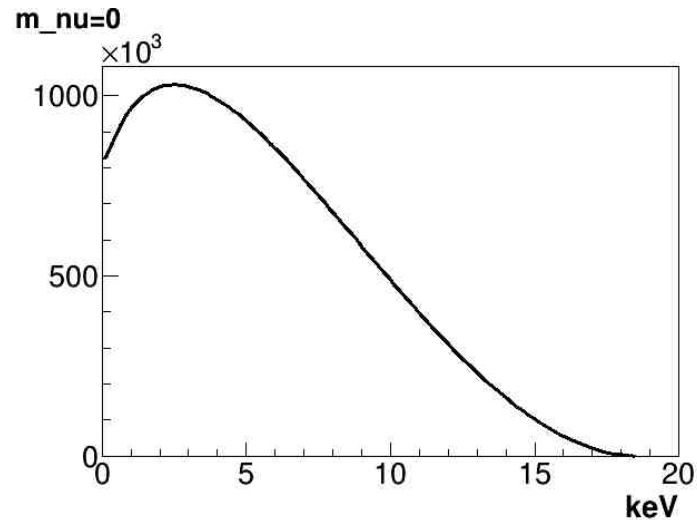


Weekly Report

2017-12-08

Kim, Hanbeom

Geant4 Simulation $m_\nu=0$



- Simulation Input:
 - $Q=18.591$ keV
- Fitting with data in a range of $[0, 18.591$ keV] & $[17, 18.591$ keV]
- Respectively, fitting $Q=$
 - 18.5911 ± 0.0009 keV
 - 18.5902 ± 0.0027 keV

Geant4 Simulation $m_\nu=0$

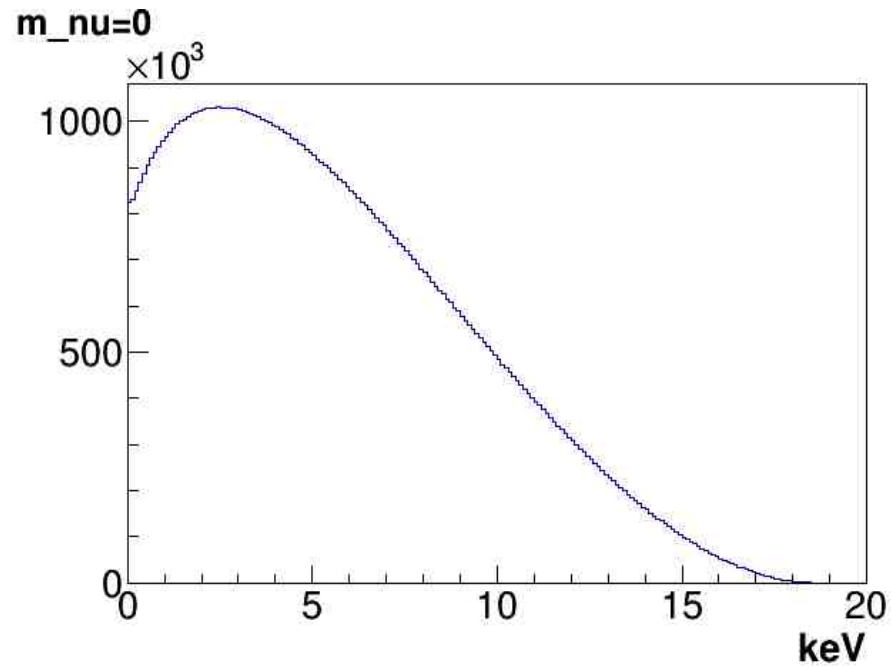


Endpoint:

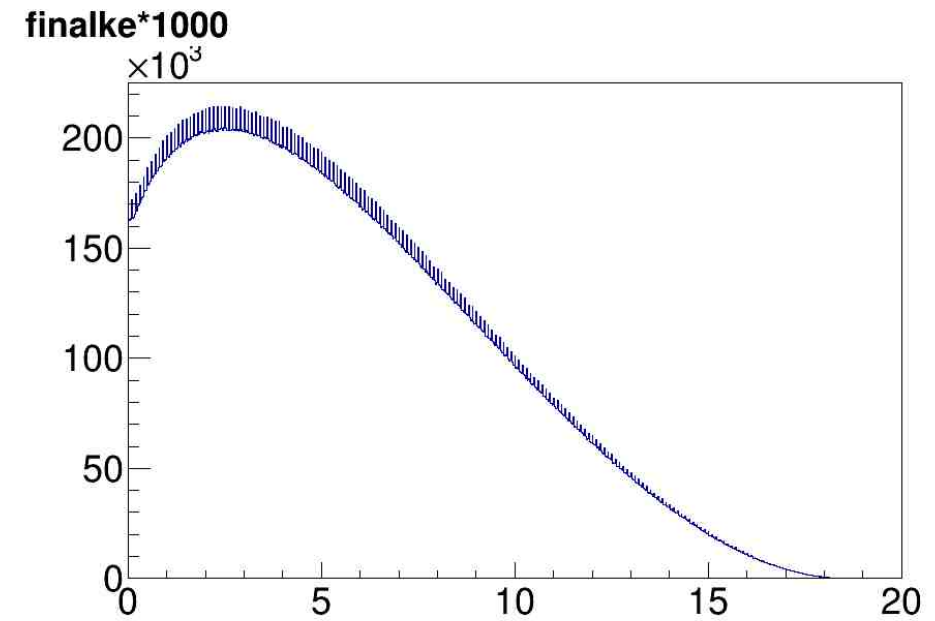
Almost overlap (The gap is smaller than the error)

However, consider the expected value of neutrino mass...

Geant4 Simulation $m_\nu=0$



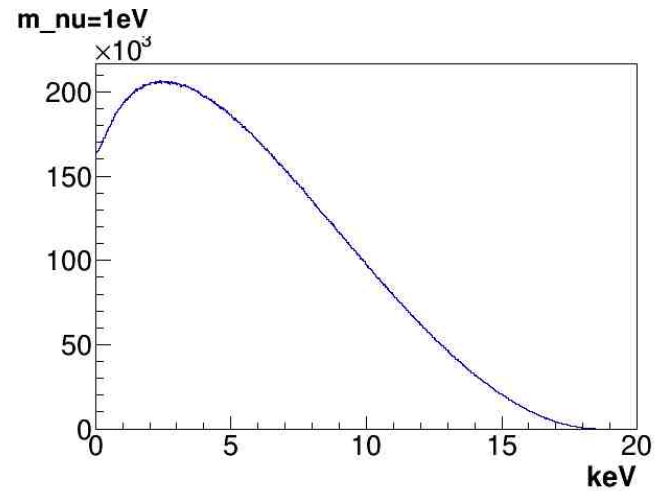
200 bins



1000 bins

(Same histogram)

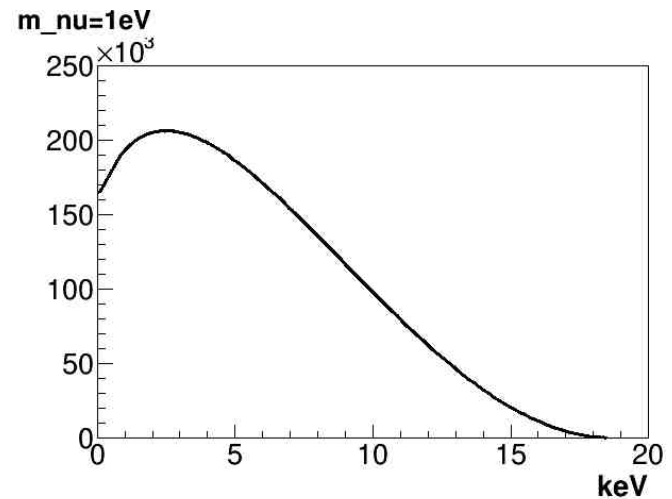
Geant4 Simulation $m_\nu=1$ eV



Simulation Input:

$Q=18.591$ keV

$m_\nu=1$ eV



Output (from fitting result spectrum):

$Q=18.5921 \pm 0.0009$ keV

$m_\nu=57.8855 \pm 5.5358$ eV

Geant4 Simulation $m_\nu=1$ eV

