

Weekly Report

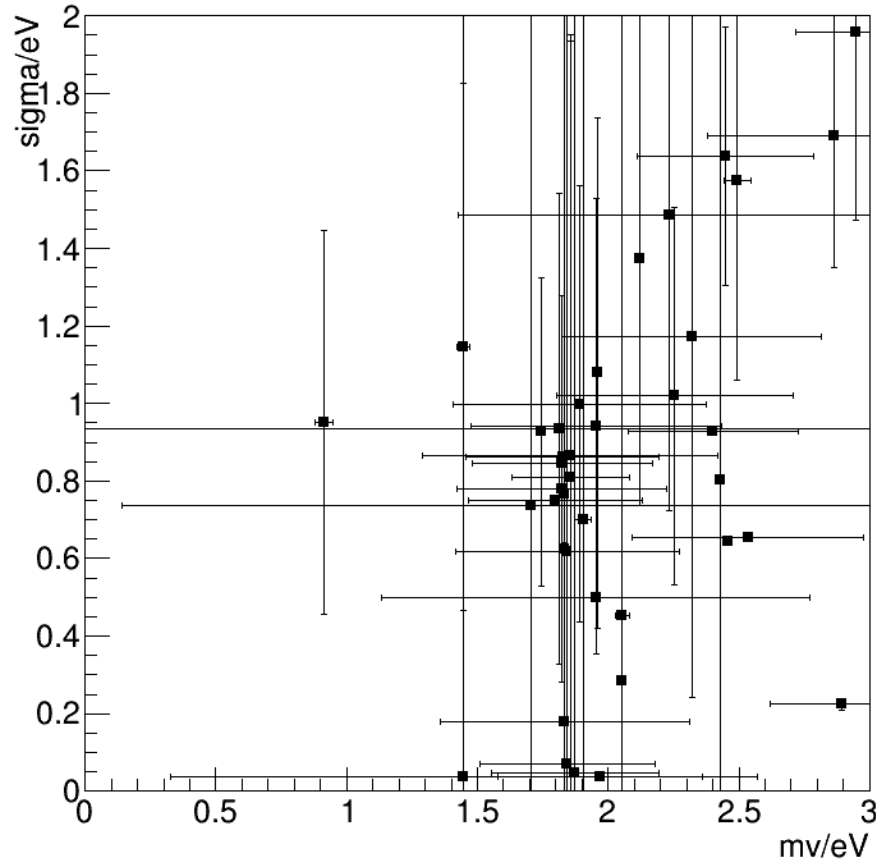
2018-05-21

Kim, Hanbeom

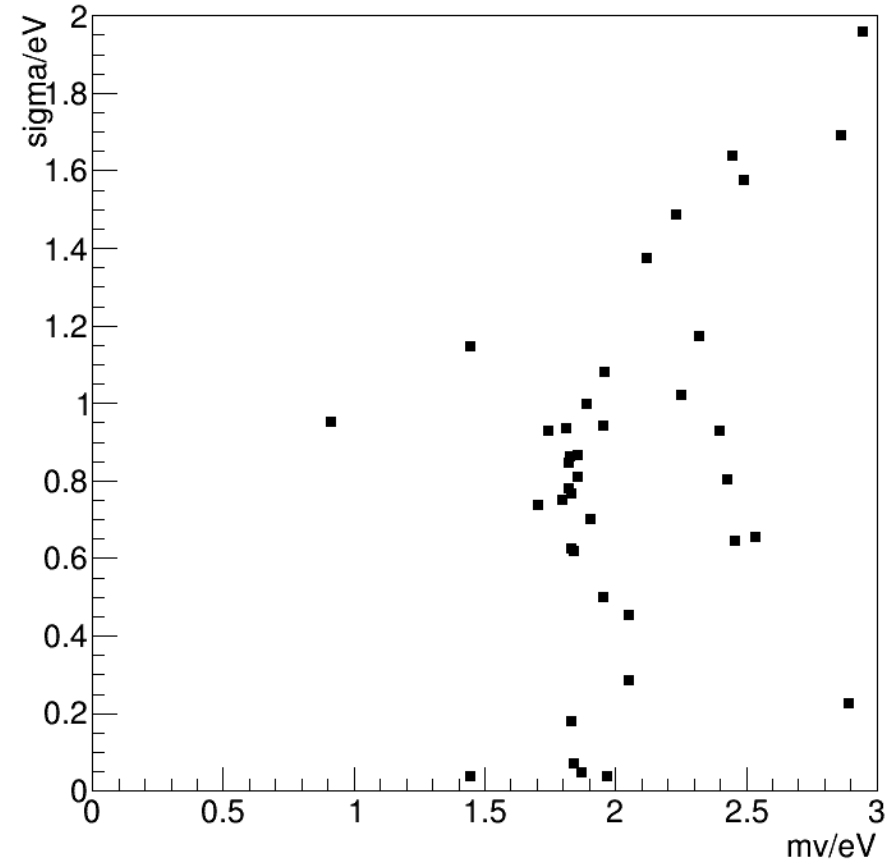
Geant4 Simulation $m_\nu=1$ eV with detector resolution

10^7 events generated from 18.3 keV: Parameters' correlation

Correlation w error bars

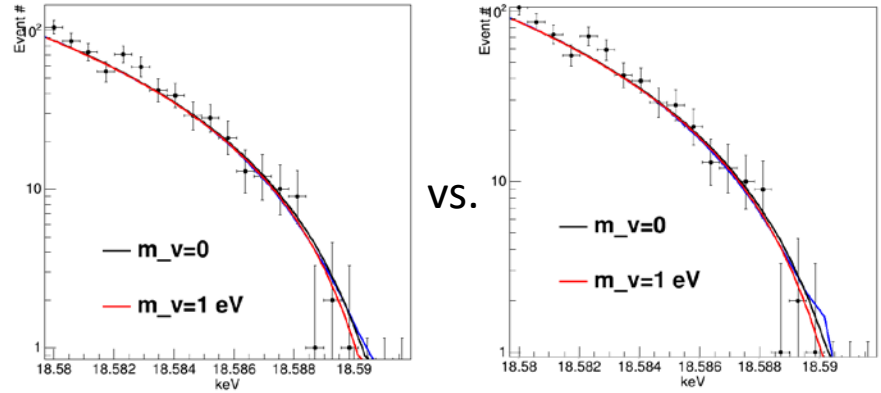


Correlation w/o error bars

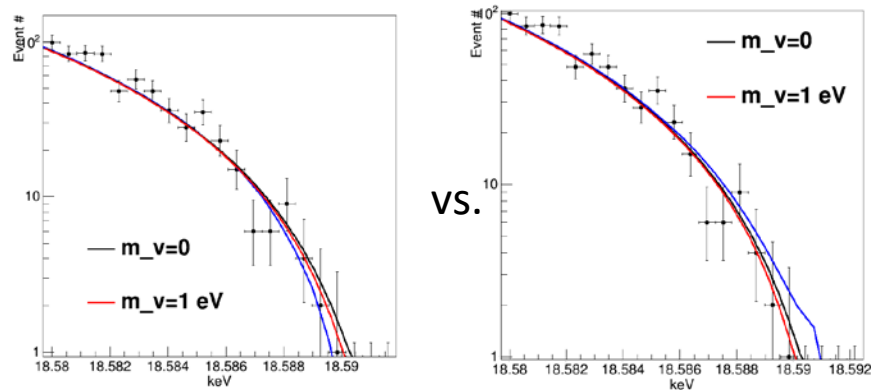


Geant4 Simulation $m_\nu=1$ eV with detector resolution

10^7 events generated from 18.3 keV: free σ vs. 1eV σ



$$m_\nu = 1.96417 \pm 0.00780 \quad m_\nu = 2.11055 \pm 0.87367$$



$$m_\nu = 2.01105 \pm 1.62123 \quad m_\nu = 1.96526 \pm 0.04827$$

$$m_\nu = 1.85776 \pm 0.22615$$

$$m_\nu = 2.85610 \pm 0.11028$$

$$m_\nu = 0.913194 \pm 0.035312$$

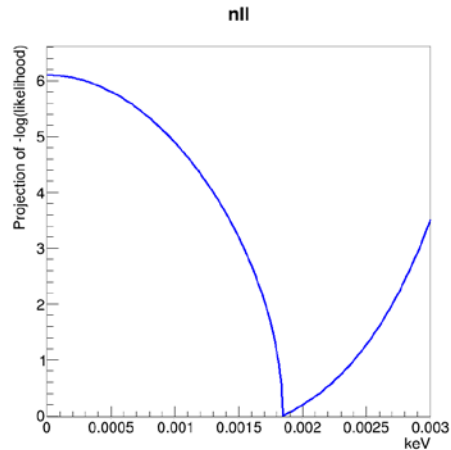
$$m_\nu = 1.92634 \pm 0.10933$$

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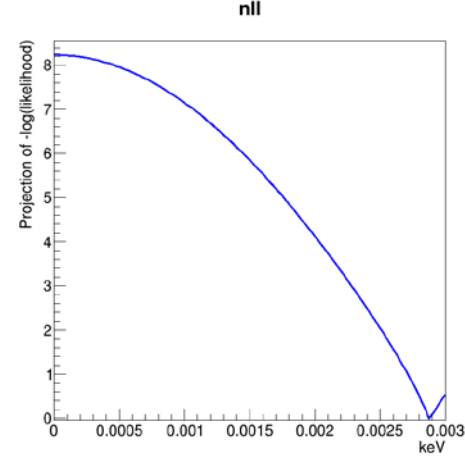
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Geant4 Simulation $m_\nu=1$ eV with detector resolution

10^7 events generated from 18.3 keV: negative log likelihood



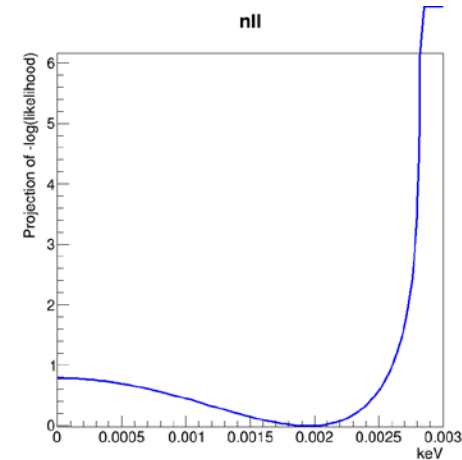
$$m_\nu = 1.84456 \pm 0.42996$$



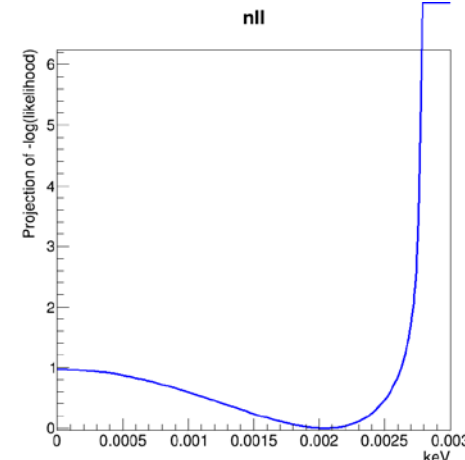
$$m_\nu = 2.25523 \pm 0.45287$$

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Minimum of the graph matches the fitting parameter



$$m_\nu = 0.00071 \pm 6.20722$$



$$m_\nu = 0.00558 \pm 6.20268$$

Minimum of the graph does not match the fitting parameter