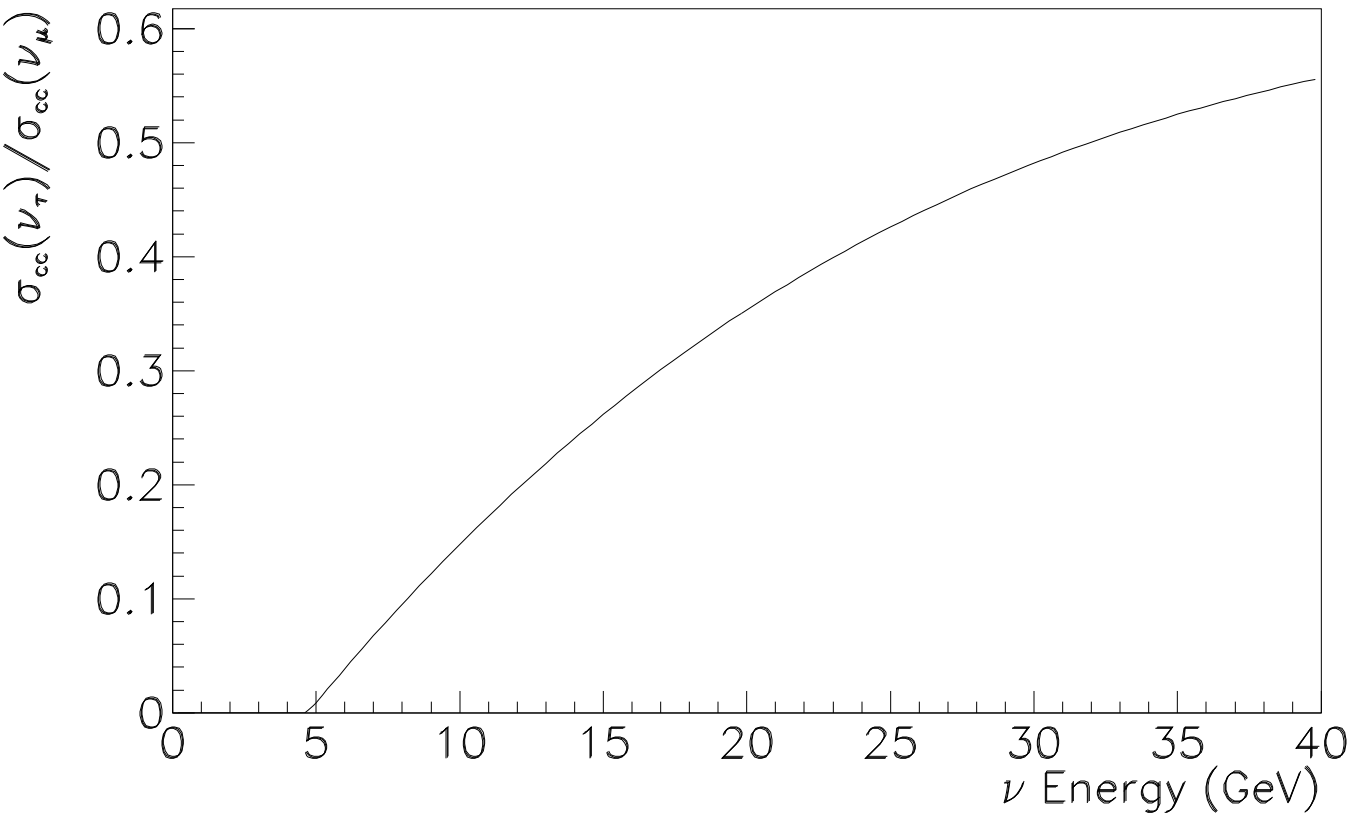
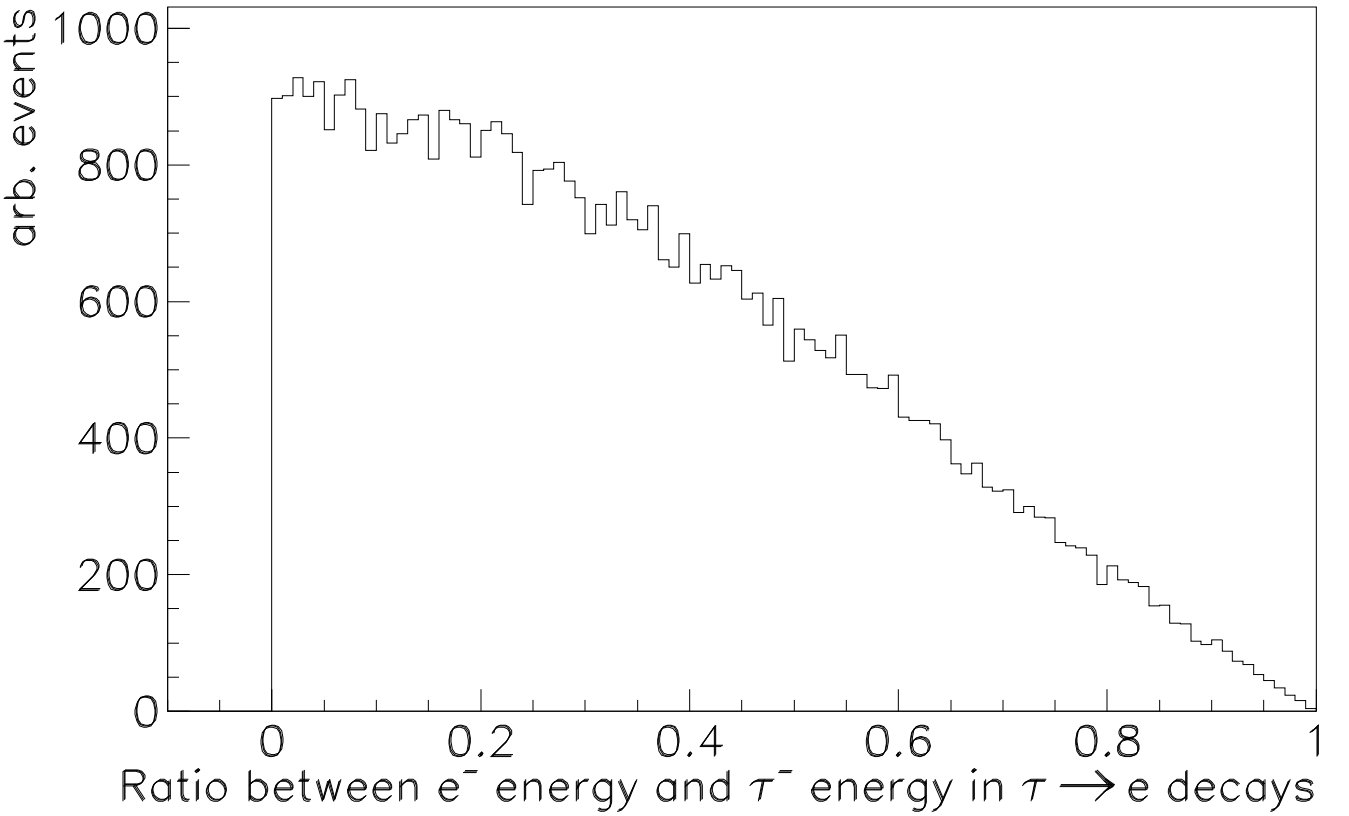
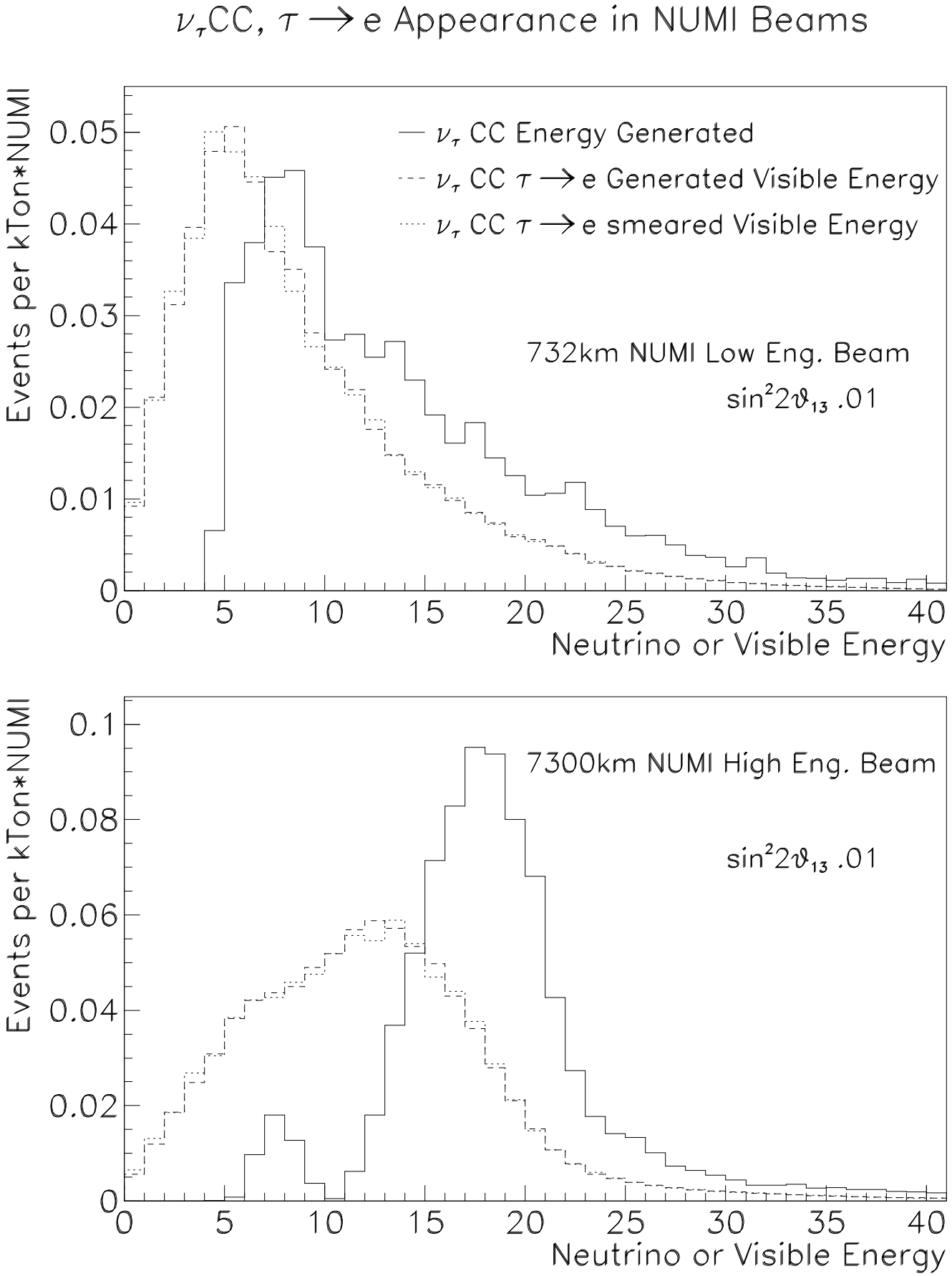
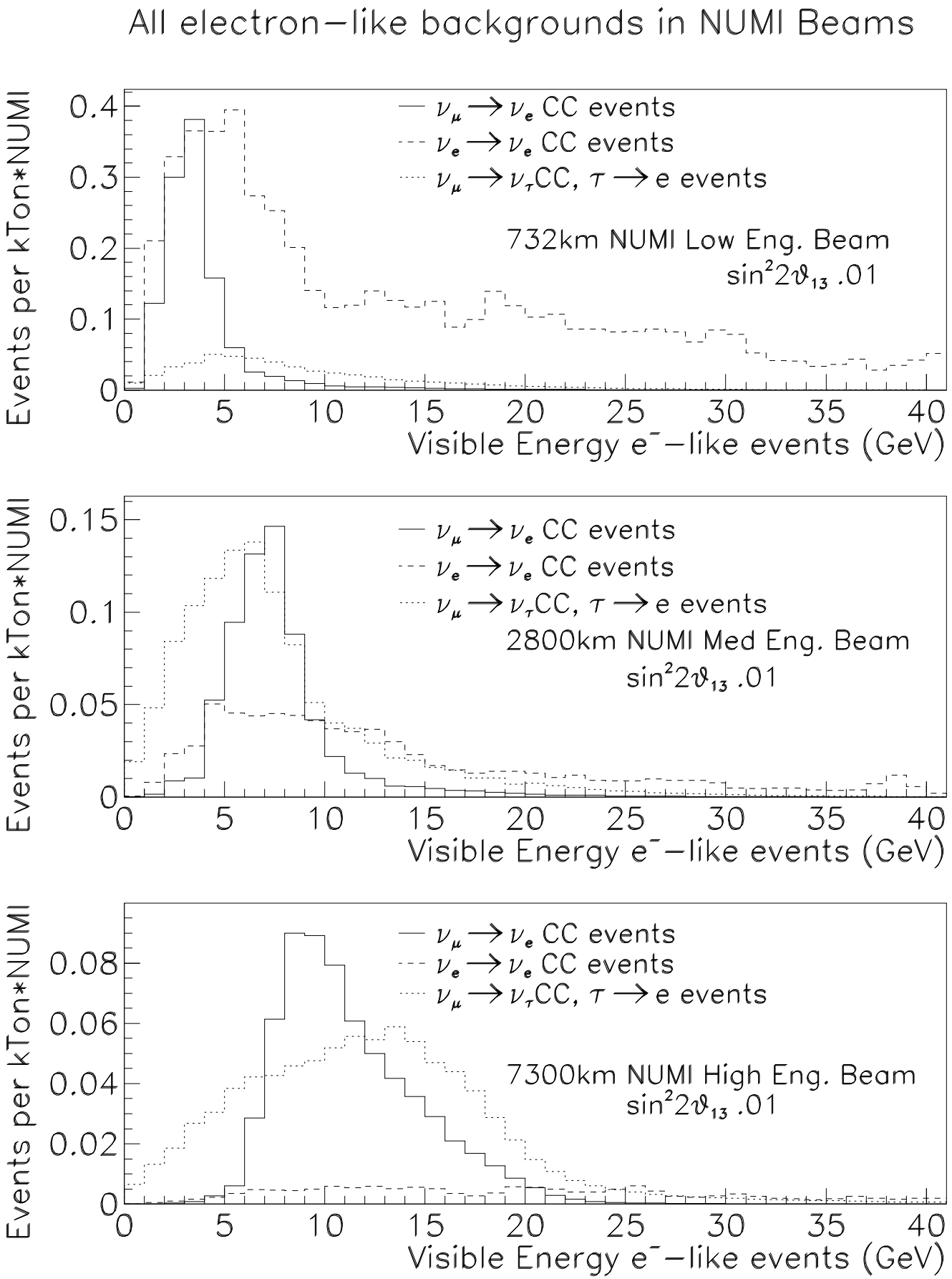
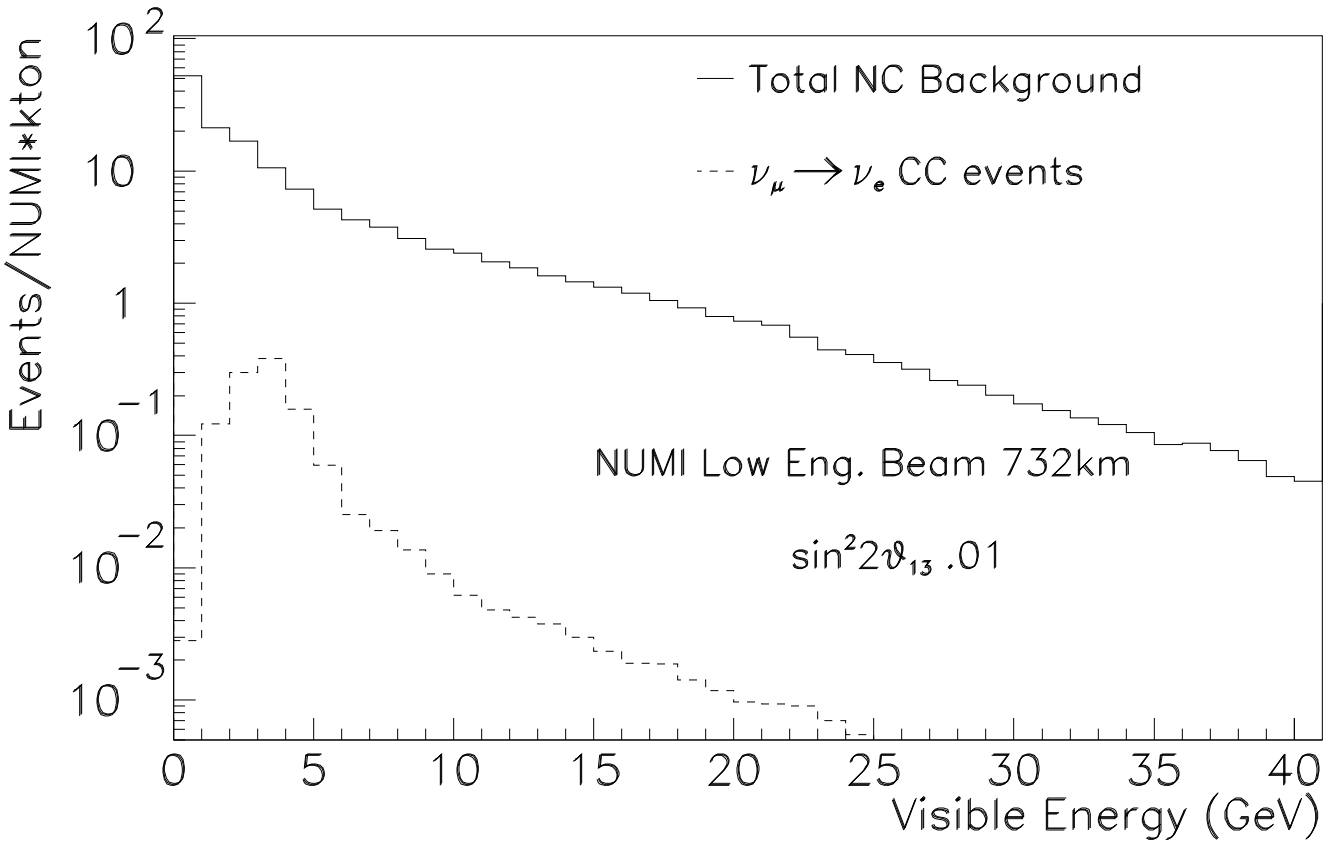
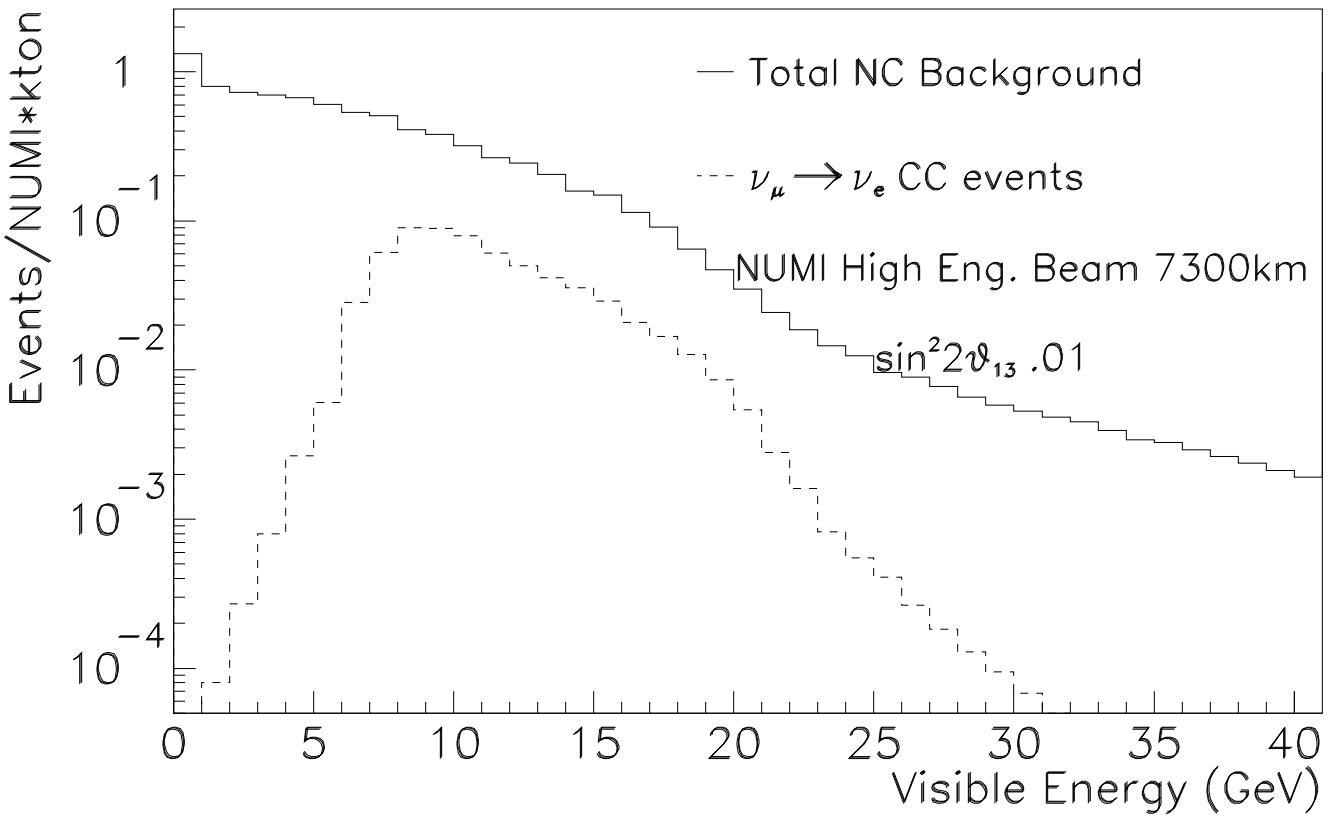
Quick Synopsis of ν_τ CC Interactions with $\tau \rightarrow e$






ν_τCC, $\tau \rightarrow$ e Appearance in NUMI Beams
Events per kTon*NUMI
0.05
0.04
0.03
0.02
0.01
0
ν_τ CC Energy Generated
ν_τ CC $\tau \rightarrow$ e Generated Visible Energy
ν_τ CC $\tau \rightarrow$ e smeared Visible Energy
732km NUMI Low Eng. Beam
$\sin^2 2\vartheta_{13}$ .01
0 5 10 15 20 25 30 35 40
Neutrino or Visible Energy
Events per kTon*NUMI
0.1
0.08
0.06
0.04
0.02
0
7300km NUMI High Eng. Beam
$\sin^2 2\vartheta_{13}$ .01
0 5 10 15 20 25 30 35 40
Neutrino or Visible Energy


All electron−like backgrounds in NUMI Beams
Events per kTon*NUMI
0.4
0.3
0.2
0.1
0
$\nu_\mu \rightarrow \nu_e$ CC events
$\nu_e \rightarrow \nu_e$ CC events
$\nu_\mu \rightarrow \nu_\tau$CC, $\tau \rightarrow$ e events
732km NUMI Low Eng. Beam
$\sin^2 2\vartheta_{13}$ .01
0 5 10 15 20 25 30 35 40
Visible Energy e⁻−like events (GeV)
Events per kTon*NUMI
0.15
0.1
0.05
0
$\nu_\mu \rightarrow \nu_e$ CC events
$\nu_e \rightarrow \nu_e$ CC events
$\nu_\mu \rightarrow \nu_\tau$CC, $\tau \rightarrow$ e events
2800km NUMI Med Eng. Beam
$\sin^2 2\vartheta_{13}$ .01
0 5 10 15 20 25 30 35 40
Visible Energy e⁻−like events (GeV)
Events per kTon*NUMI
0.08
0.06
0.04
0.02
0
$\nu_\mu \rightarrow \nu_e$ CC events
$\nu_e \rightarrow \nu_e$ CC events
$\nu_\mu \rightarrow \nu_\tau$CC, $\tau \rightarrow$ e events
7300km NUMI High Eng. Beam
$\sin^2 2\vartheta_{13}$ .01
0 5 10 15 20 25 30 35 40
Visible Energy e⁻−like events (GeV)

Total Neutral Current Rejection Needs