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Cool, but Why?

Neutrino detection at LHC

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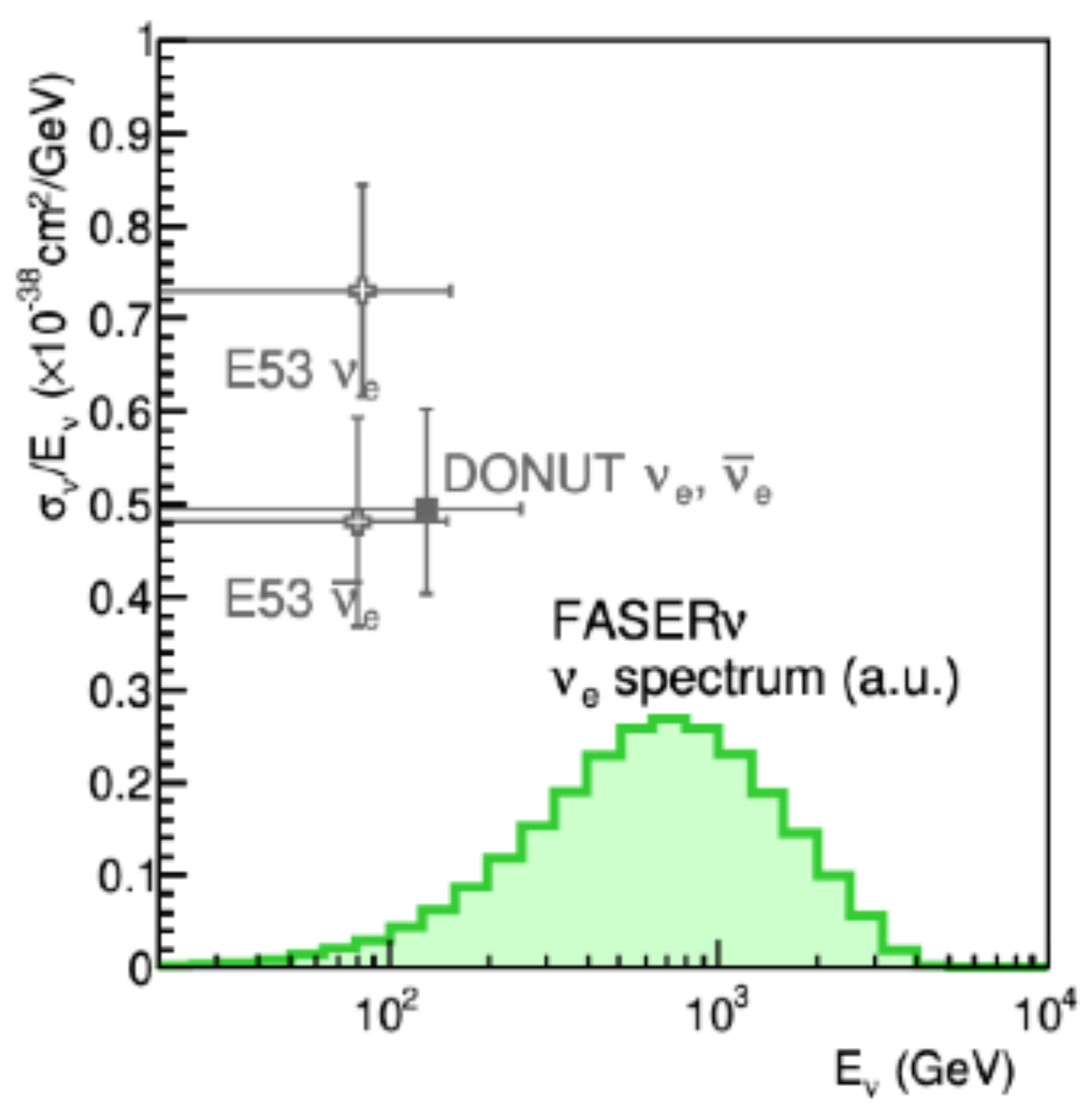
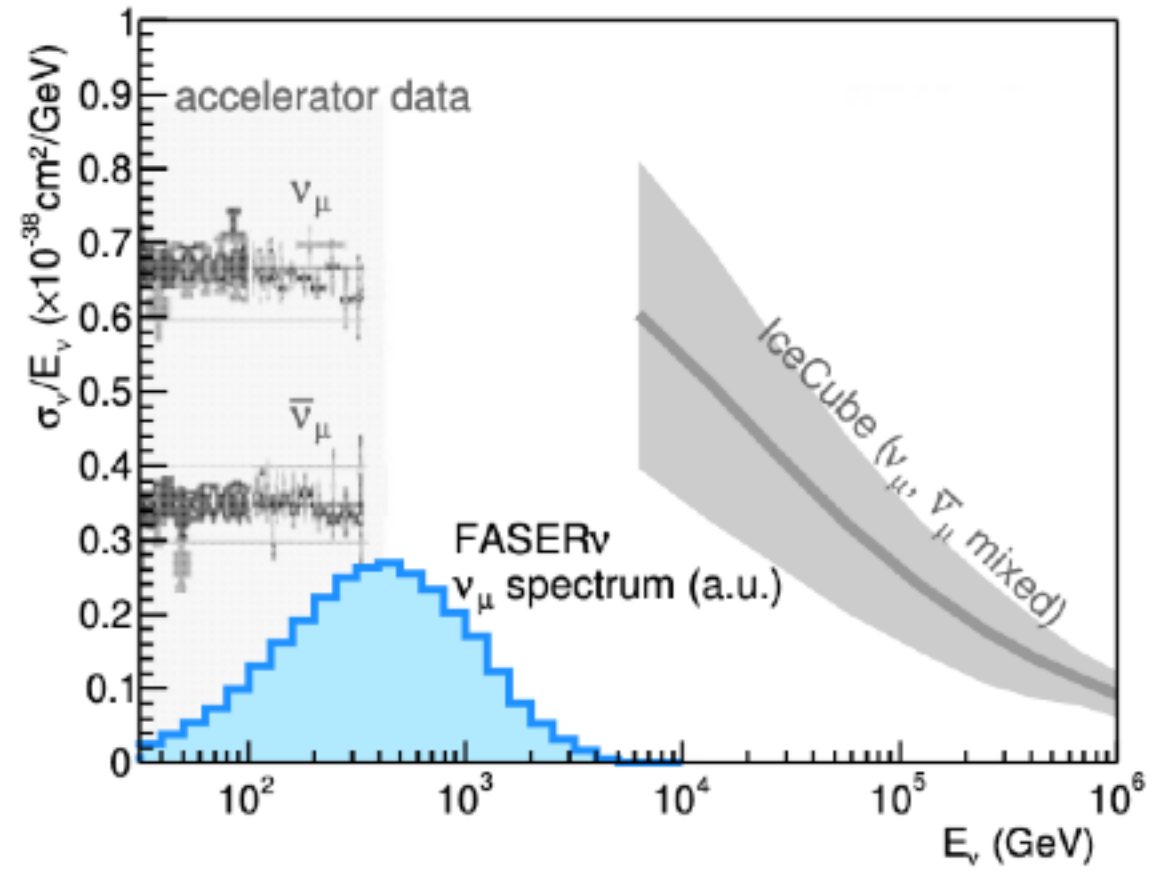
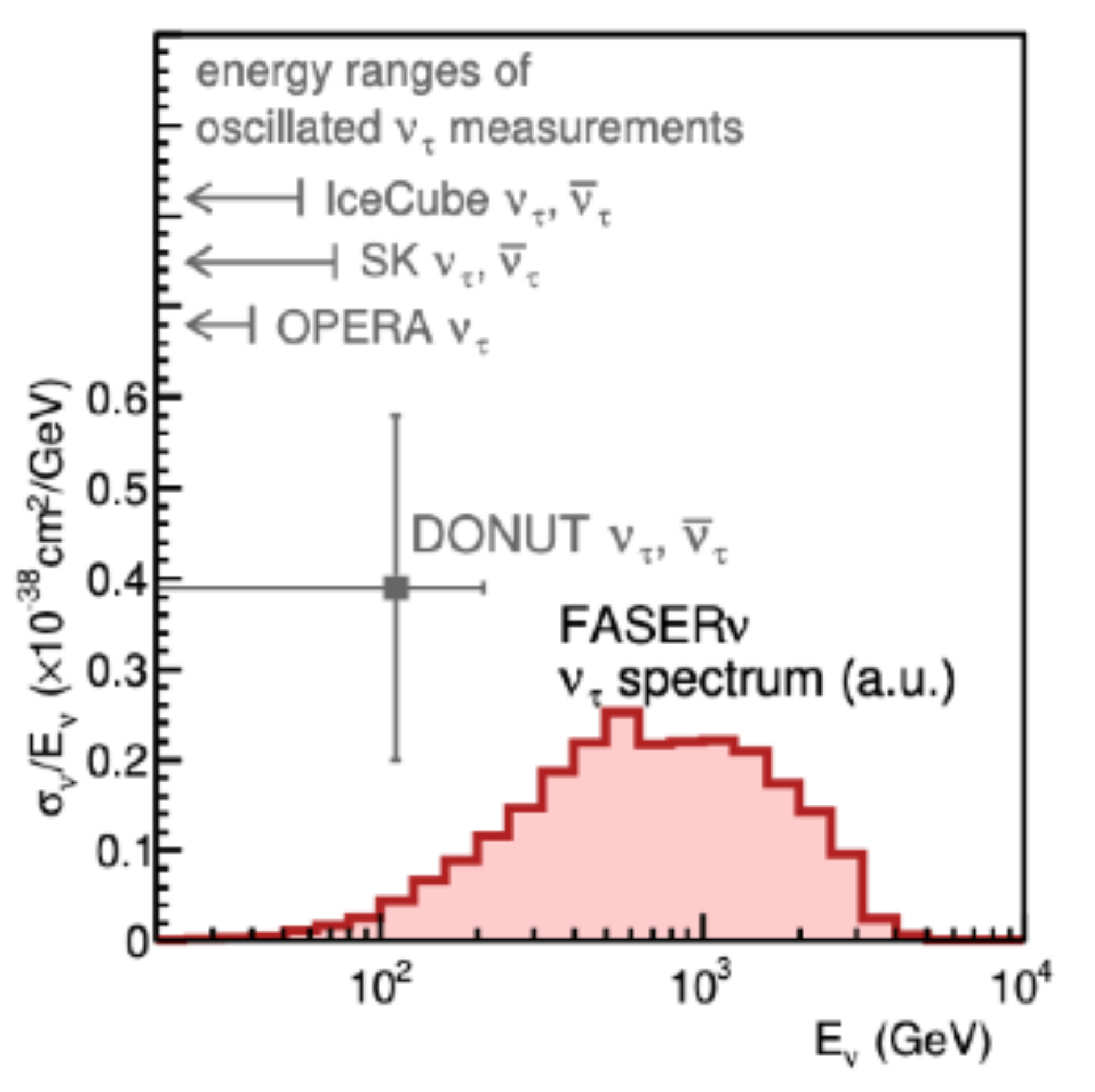

σ_ν/E_ν ($\times 10^{-38}$ cm^2/GeV)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
E53 ν_e
DONUT ν_e, $\bar{\nu}_e$
E53 $\bar{\nu}_e$
FASERν
ν_e spectrum (a.u.)
10^2
10^3
10^4
E_ν (GeV)


accelerator data
ν_μ
$\bar{\nu}_\mu$
FASERν
ν_μ spectrum (a.u.)
IceCube (ν_μ, $\bar{\nu}_\mu$ mixed)
σ_ν/E_ν ($\times 10^{-38}$ cm^2/GeV)
E_ν (GeV)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10^2
10^3
10^4
10^5
10^6


energy ranges of
oscillated ν_τ measurements
IceCube ν_τ, $\bar{\nu}_\tau$
SK ν_τ, $\bar{\nu}_\tau$
OPERA ν_τ
DONUT ν_τ, $\bar{\nu}_\tau$
FASERν
ν_τ spectrum (a.u.)
σ_ν/E_ν ($\times 10^{-38}$ cm^2/GeV)
0
0.1
0.2
0.3
0.4
0.5
0.6
10^2
10^3
10^4
E_ν (GeV)

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Neutrino detection at LHC

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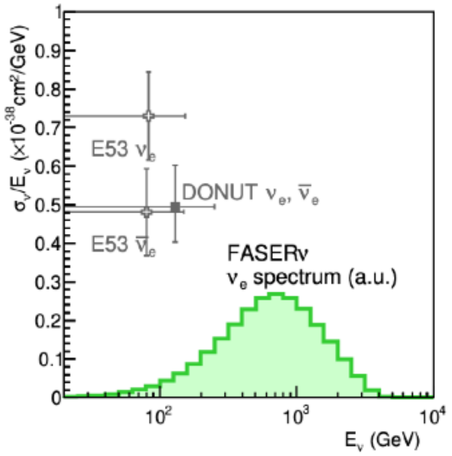

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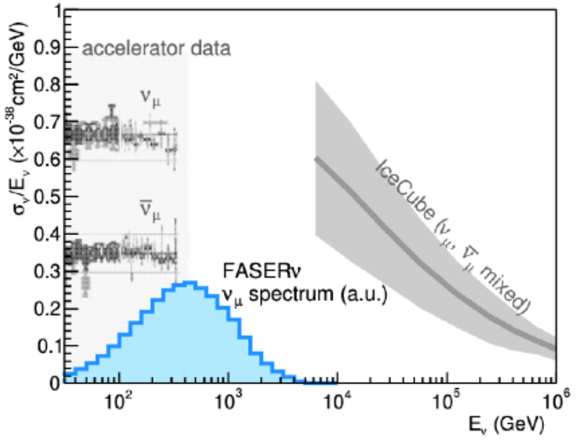

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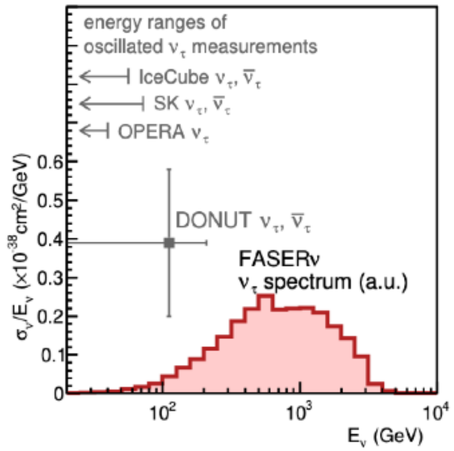

The Model