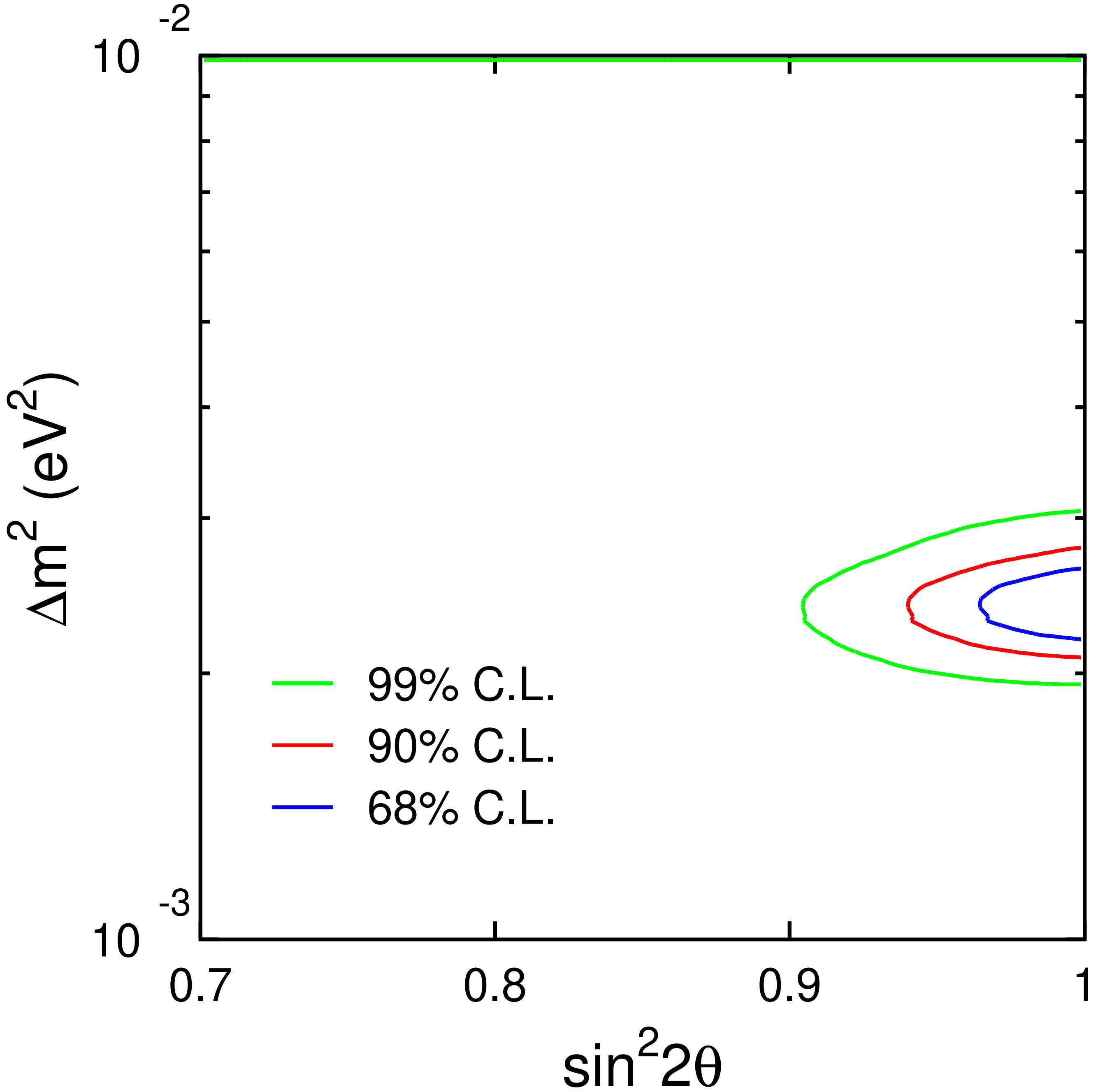
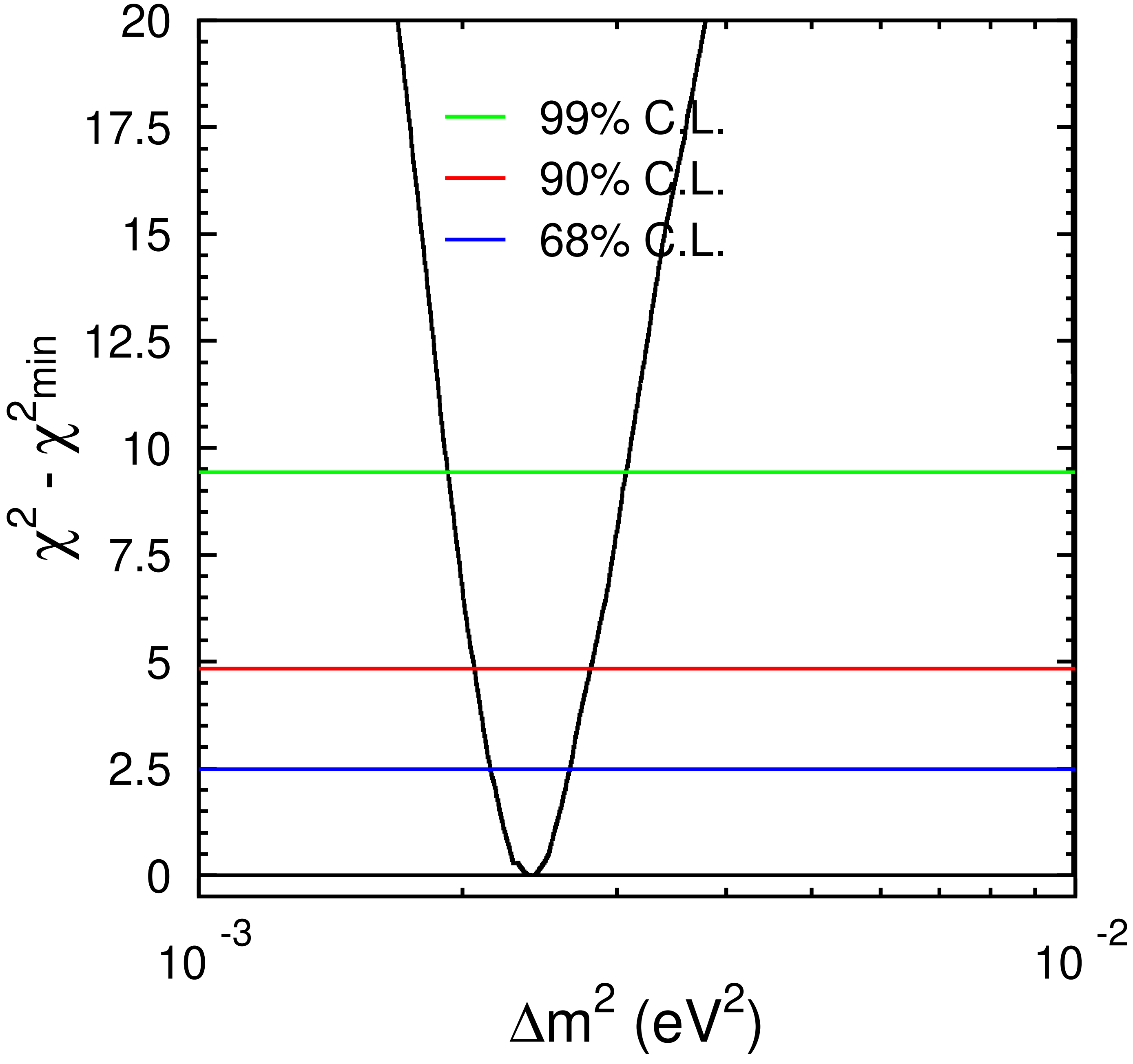
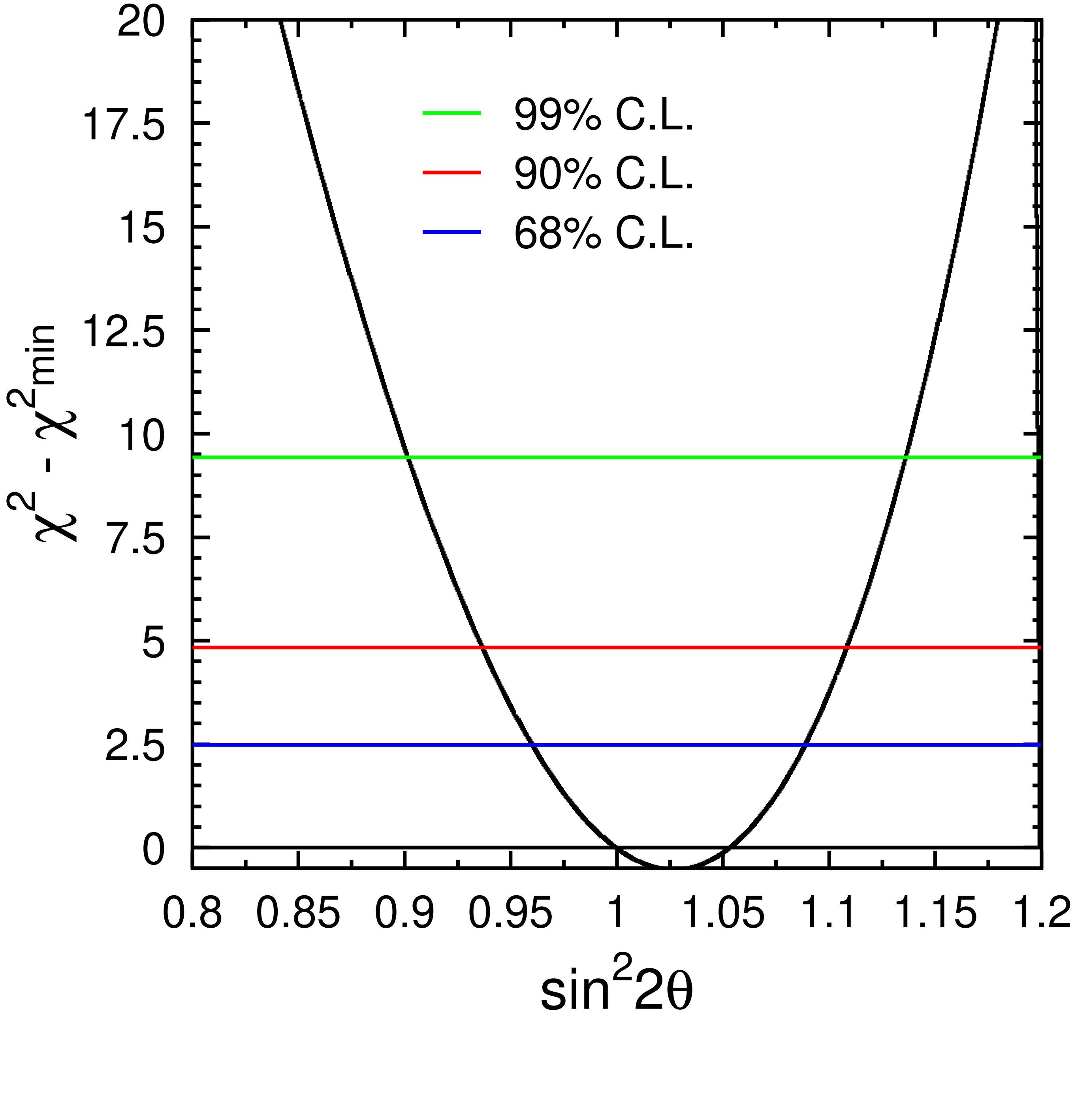


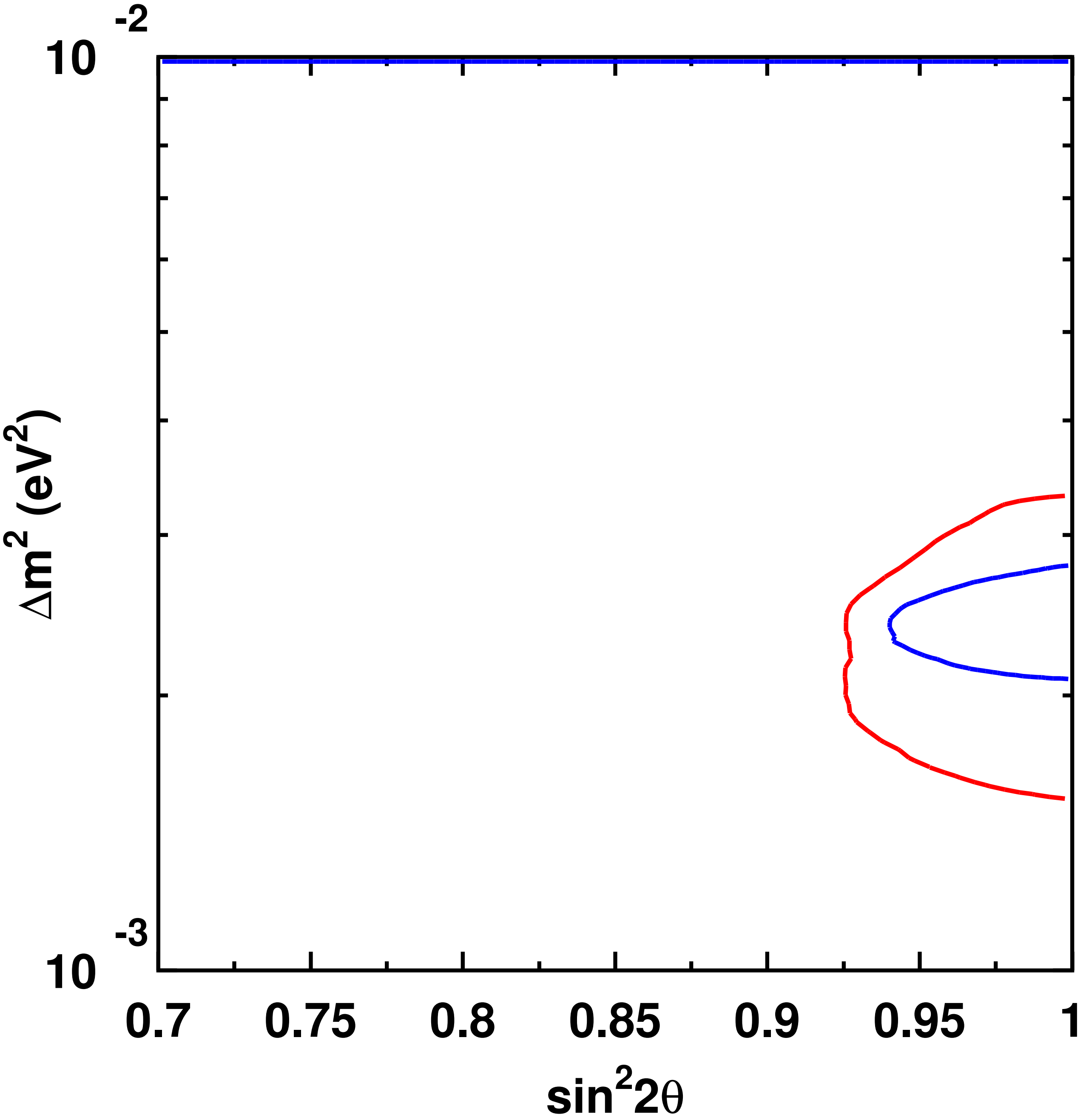
10^{-2}
10^{-3}
Δm^2 (eV^2)
0.7
0.8
0.9
1
$\sin^2 2\theta$
99% C.L.
90% C.L.
68% C.L.



20
17.5
15
12.5
10
7.5
5
2.5
0
99% C.L.
90% C.L.
68% C.L.
$\chi^2 - \chi^2_{min}$
10^{-3}
10^{-2}
Δm^2 (eV^2)



99% C.L.
90% C.L.
68% C.L.
$\chi^2 - \chi^2_{min}$
$\sin^2 2\theta$
0
2.5
5
7.5
10
12.5
15
17.5
20
0.8
0.85
0.9
0.95
1
1.05
1.1
1.15
1.2



10 -2
10 -3
0.7
0.75
0.8
0.85
0.9
0.95
1
Δm2 (eV2)
sin22θ

Results of L/E Analysis
(1489(SK1) + 804(SK2) days FC + PC)

- **Assuming $\nu_\mu \leftrightarrow \nu_\tau$ Oscillation**

  Best Fit:

  χ^2_{min} = 83.0 / 83 d.o.f

  at ($\sin^2 2\theta$, Δm^2) = (1.00 , 2.4E-03 eV^2)

  (including unphysical region)

  χ^2_{min} = 82.5 / 83 d.o.f

  at ($\sin^2 2\theta$, Δm^2) = (1.03 , 2.4E-03 eV^2)

  90% confidence level allowed region:

  $\sin^2(2\theta) > 0.9$

  1.9×10^{-3} eV^2 $< \Delta m^2 < 3.0 \times 10^{-3}$ eV^2

- **Assuming Neutrino Decay**

  χ^2_{min} = 105.7 / 83 d.o.f

  $\Delta\chi^2$ = 22.7 / 83 d.o.f (4.8 standard deviations)

- **Assuming Neutrino Decoherence**

  χ^2_{min} = 111.8 / 83 d.o.f

  $\Delta\chi^2$ = 28.8 / 83 d.o.f (5.4 standard deviations)