Welcome

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New Instruments for Neutrino Relics and Mass, Dec 8, 2008

Goals for the Workshop

What do we do if $m_\nu < 0.2$ eV?

$\sqrt{\Delta m_{12}} = 0.0089$ eV $\qquad$ $\sqrt{\Delta m_{23}} = 0.053$ eV

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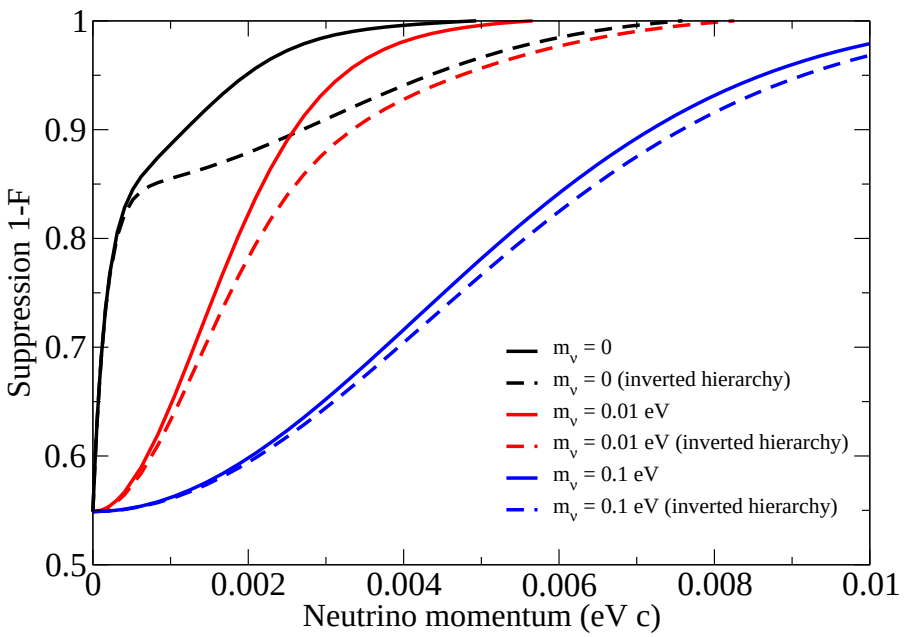
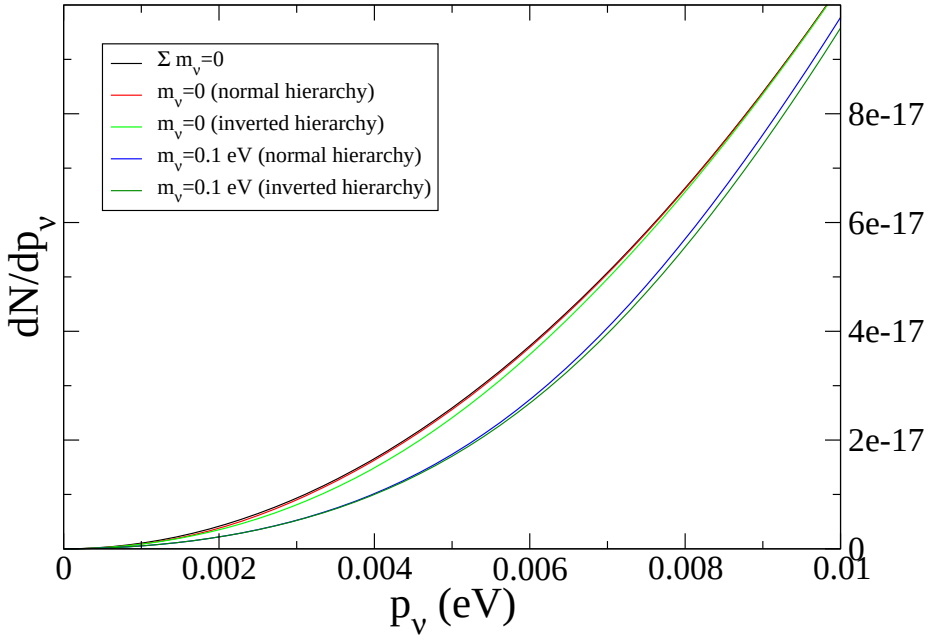
How will we discover neutrino relics?

$T_\nu = 0.00017$ eV $\qquad$ $p_F = 0.00023$ eV

This (probably) requires a fundamental shift in thinking and experiments, because 0.1 eV $= 0.002$ mm; 0.001 eV $= 0.2$ mm, or $T =$pK (Tritium).

Pauli Blocking





Pauli blocking of neutrinos from a 3-body decay can be significant, and experiments which can measure mass below 0.01 eV can in principle be sensitive to it.

The same is true of neutrino capture (see talks by A. Cocco, M. Messina)

A Document

To write up the unanswered questions, the answers to which will lead us to new experiments.