

Separating the neutrino and anti-neutrino content of accelerator-based neutrino beams

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With the newly confirmed large value of θ_{13} , accelerator-based neutrino experiments will soon seek to measure the mass ordering and CP violation. To do so requires precise oscillation measurements using both neutrino and anti-neutrino beams. However, since these are never purely neutrino or anti-neutrino in content, the detector must be able to separate the two contributions. This is most commonly done by employing a magnetic field, but statistical techniques such as those presented here offers a powerful handle on their overall level and energy dependence. I'll present the first measurement of the neutrino contribution to an anti-neutrino beam observed by a non-magnetized detector.

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