LEPP Journal Club

Friday, January 27, 2012. 4:00 pm (3:45 refreshments)
301 Physical Sciences Building

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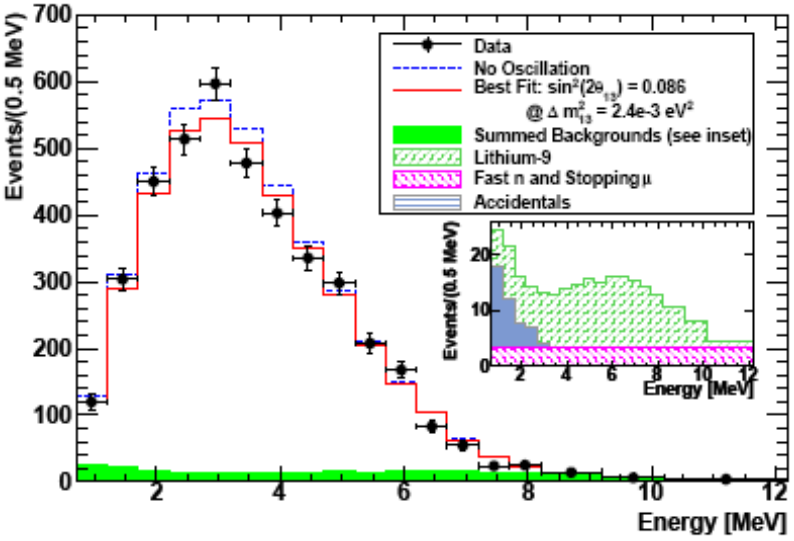
Measuring the neutrino mixing angle θ_{13} with the Double Chooz far detector



Double Chooz is a neutrino oscillation experiment that aims to measure or set a limit on θ_{13}, a neutrino mixing angle. This talk describes the experiment and presents its first results obtained with a single anti-neutrino detector. The detector is located ~1 km from the Chooz Nuclear Power Plant in France and has taken physics data since April 2011. The first results, which are based on ~100 days of running, provide an indication of electron antineutrino disappearance consistent with neutrino oscillations. The no-oscillation hypothesis is ruled out at the 94.6% C.L.

LEPP, the Cornell University Laboratory for Elementary-Particle Physics, has joined with CHESS to become the Cornell Laboratory for Accelerator-based Sciences and Education (CLASSE). LEPP's primary source of support is the National Science Foundation.