

Low- ν : a tale of two energies

Thursday 18 July 2024 15:45 (15 minutes)

It was the best of methods, it was the worst of methods... This talk will introduce and discuss the low- ν method for constraining the neutrino flux shape by isolating neutrino interactions with low energy transfer to the nucleus in two different contexts. Firstly, at few-GeV accelerator neutrino energies relevant for precision oscillation experiments where the method is well known, but we find that model-dependence limits its utility for the precision era. Secondly, at the TeV neutrino energies relevant for planned searches at the Forward Physics Facility, using neutrino produced in LHC collisions. We show that the low- ν method would be effective for extracting the muon-neutrino flux shape at the FPF, in a model-independent way, for a variety of detector options, and that the precision would be sufficient to discriminate between various realistic flux models.

Alternate track

I read the instructions above

Yes

Primary author: WILKINSON, Callum David (Lawrence Berkeley National Lab. (US))

Presenter: WILKINSON, Callum David (Lawrence Berkeley National Lab. (US))

Session Classification: Neutrino Physics

Track Classification: 02. Neutrino Physics