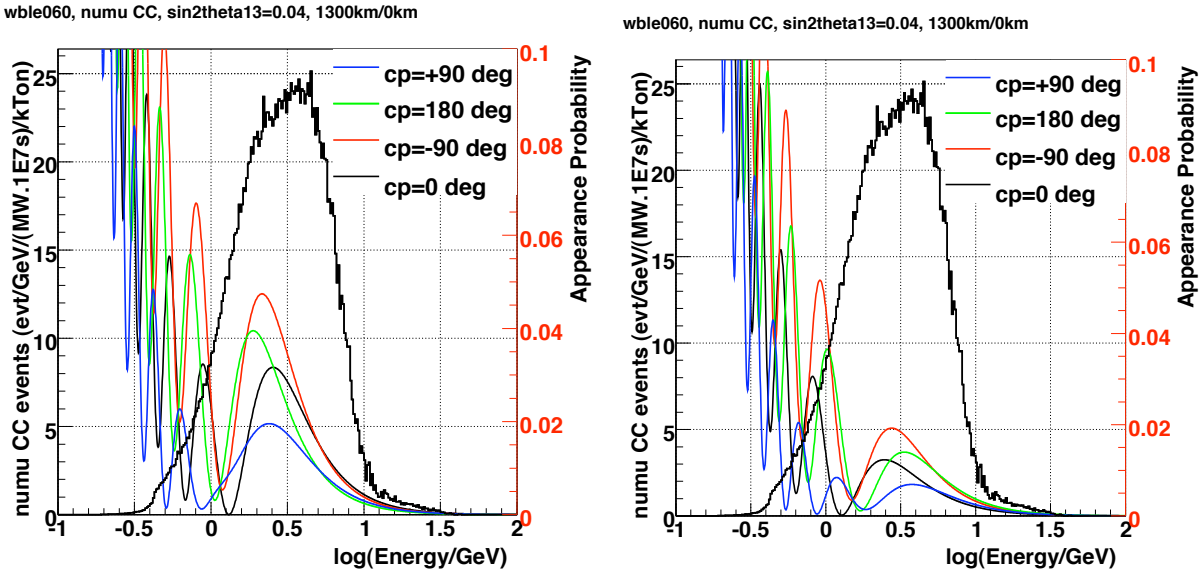

FIG. 3: (color) Spectrum of charged current ν_μ events using a new wide band beam from FNAL to a location at 1300 km. The spectrum is normalized per GeV per $MW \times 10^7 sec$ protons of 60 GeV. Overlayed is the probability of $\nu_\mu \rightarrow \nu_e$ conversion for $\sin^2 2\theta_{13} = 0.04$ with rest of the oscillation parameters as described in the text. The left plot is for regular mass ordering and right hand side is for reversed mass ordering. Figure includes no detector effects such as efficiencies, resolution, or backgrounds.