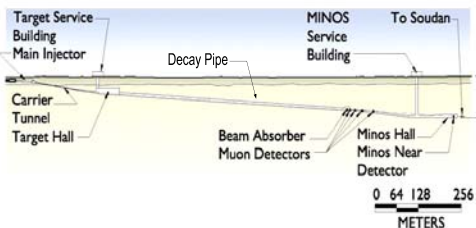
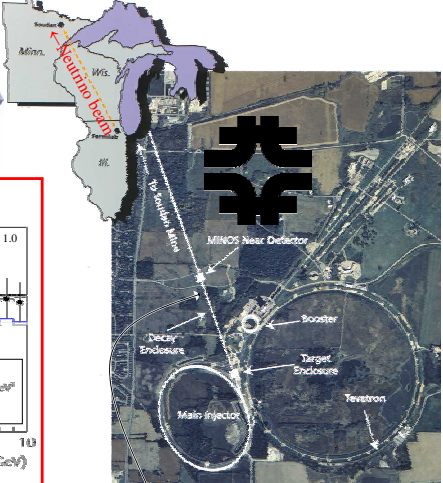




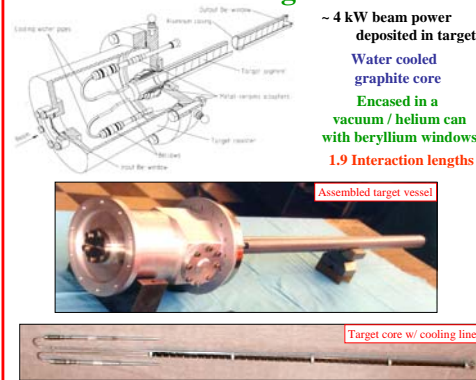
Status of the NuMI Project

Robert M. Zwaska
University of Texas at Austin

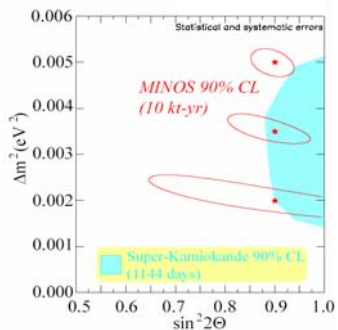
for the
MINOS Collaboration



Target



Oscillation Measurements



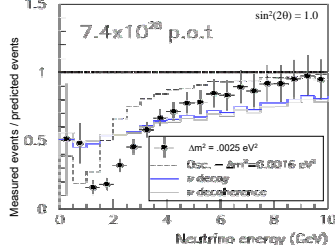
➤ ν_μ disappearance

$$P(\nu_\mu \rightarrow \nu_\tau) = \sin^2 2\theta \sin^2 \left(1.27 \frac{(\Delta m^2 / \text{eV}^2)(L / \text{km})}{(E_\nu / \text{GeV})} \right)$$

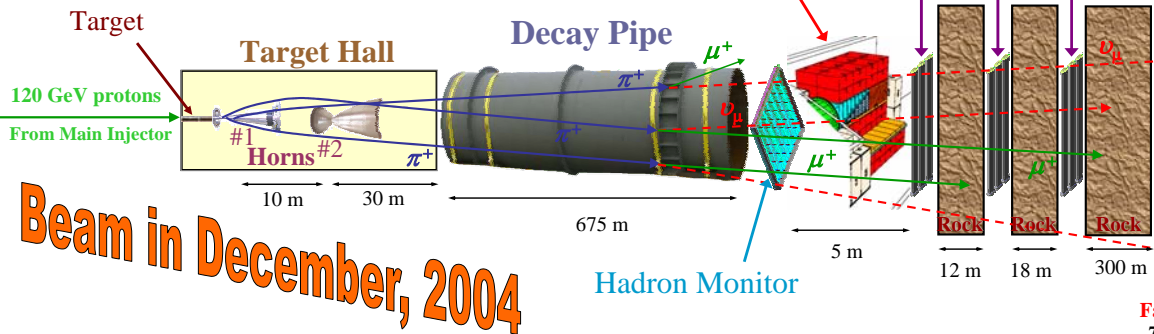
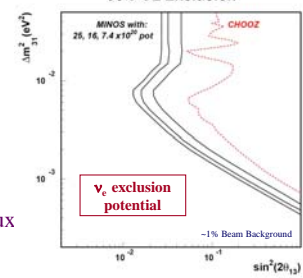
➤ ν_e appearance

➤ Near detector provides unoscillated flux

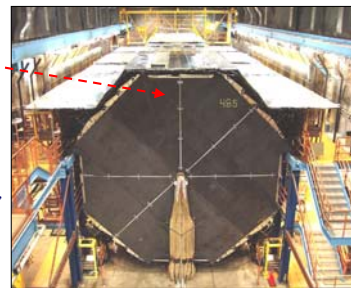
Spectrum ratio



90% CL Exclusion

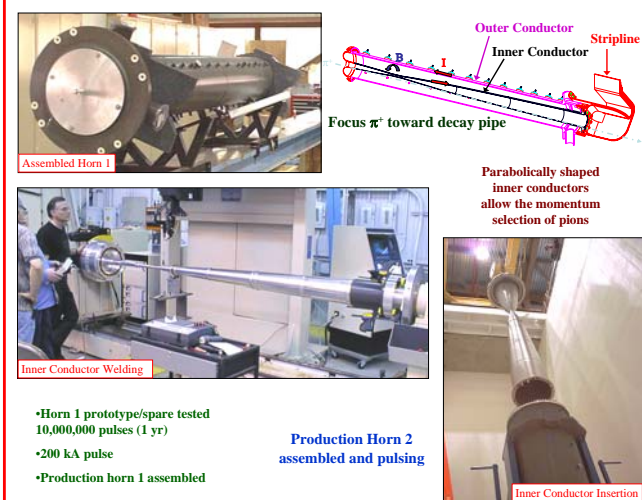


Near Detector
1.03 km away
At Fermilab
900 tons
280 planes complete
&
ready for final assembly



Far Detector
735 km away
Soudan, MN
5400 tons
Assembled, energized,
and taking data

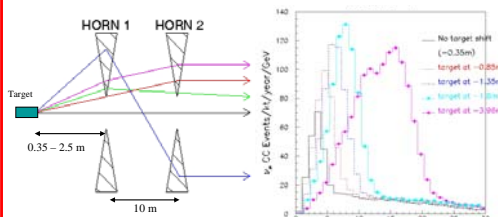
Magnetic Focusing Horns



Civil Construction



Variable Energy Beam



- Focus higher energy pions at smaller angles
- Pull target back up to 2.5 m along the beam axis