

Cerenkov muon ring



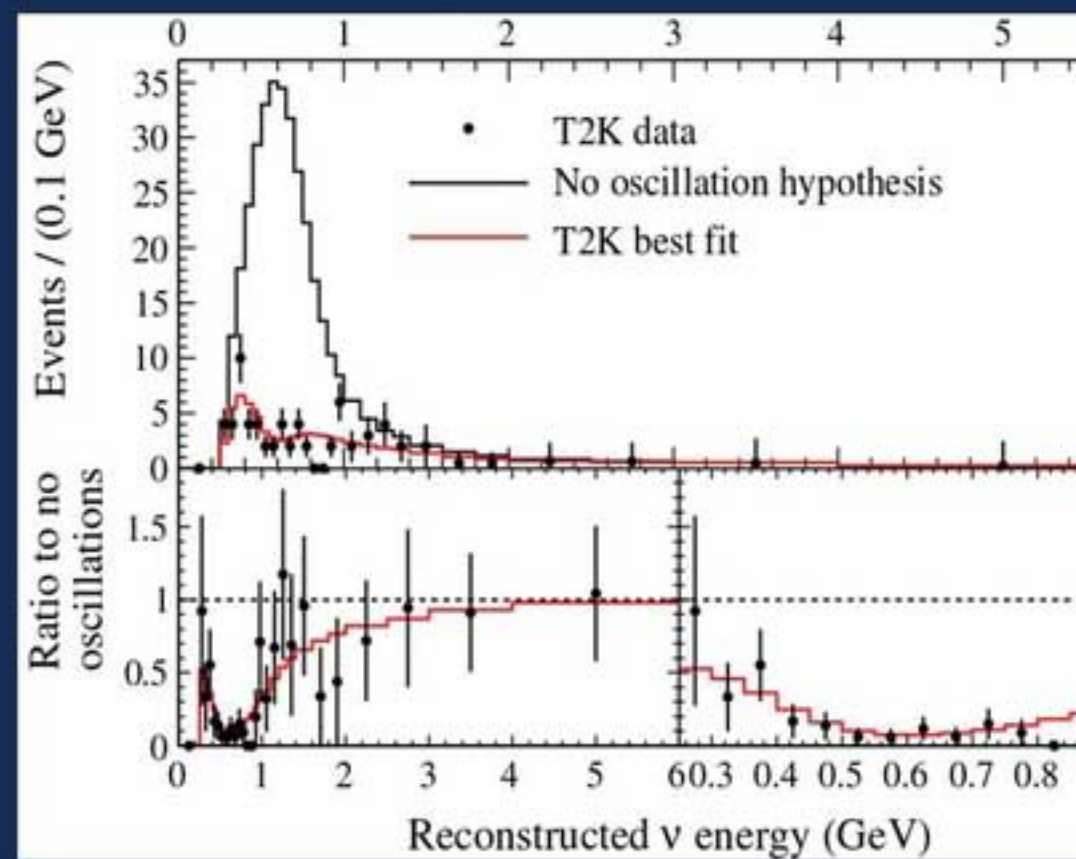
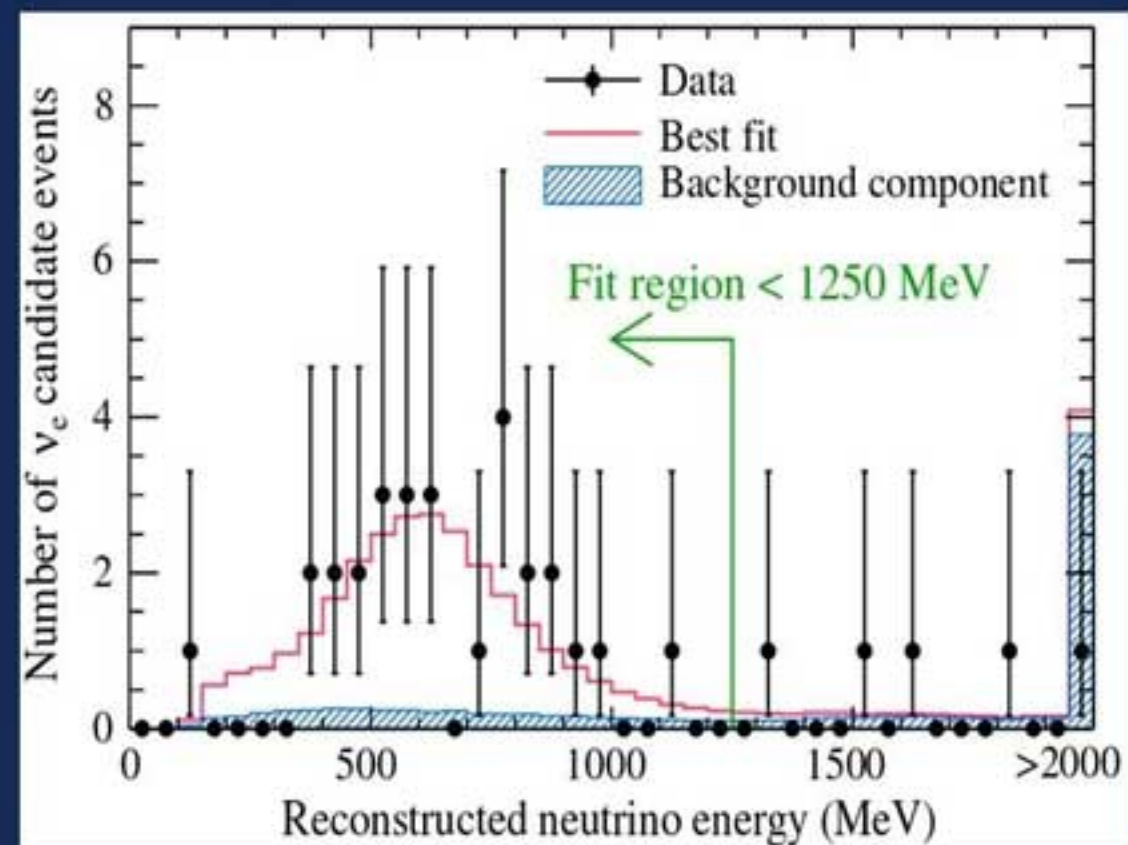
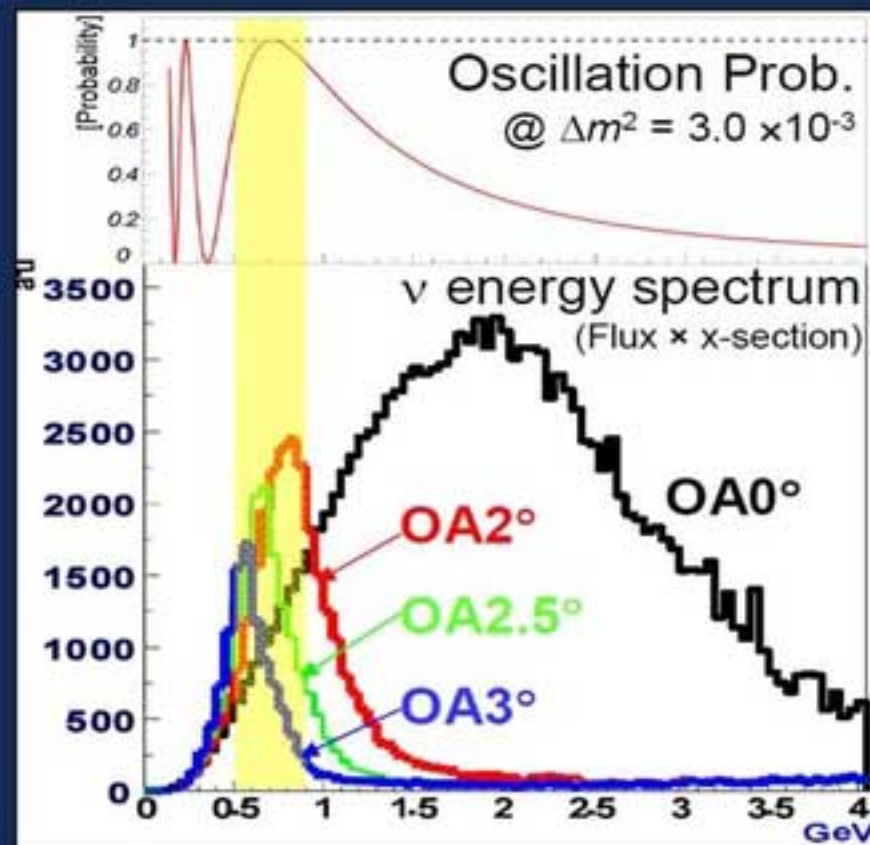
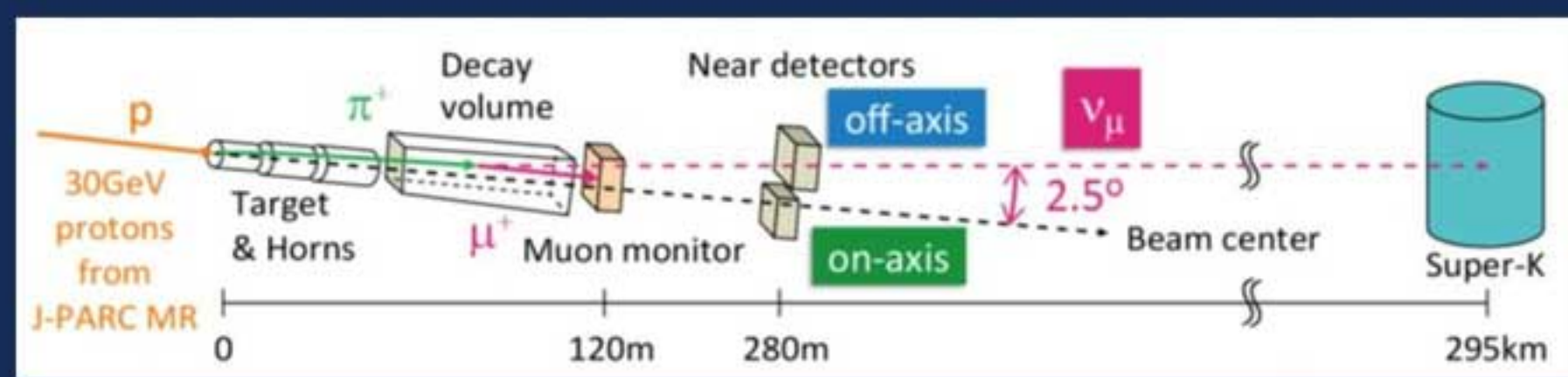
T2K (2011) and HyperK (2025)

First off axis (2.5°) experiment:
monoenergetic intense beam

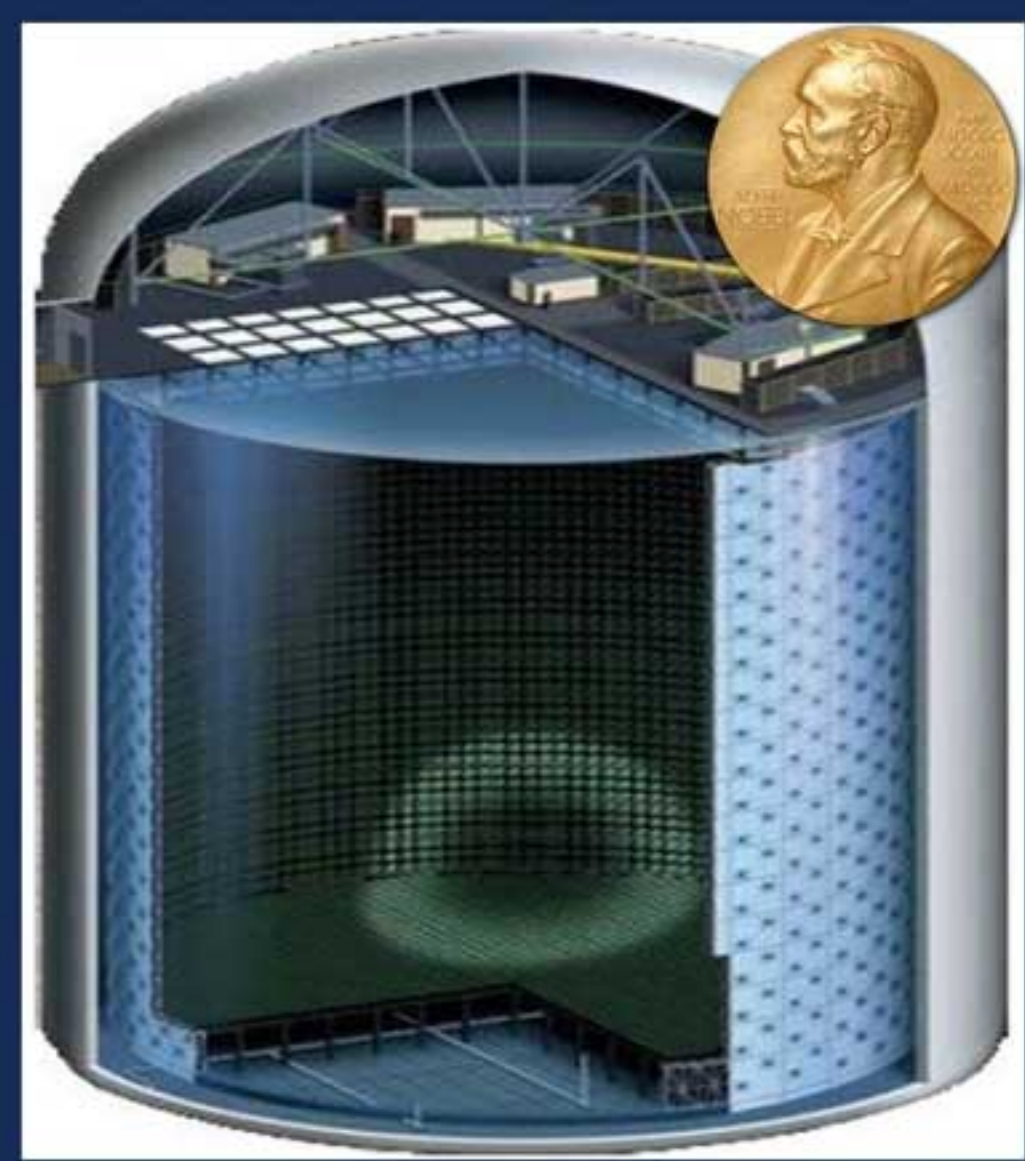
$\nu_\mu \rightarrow \nu_e$ oscillation
appearance

$\nu_\mu \rightarrow \nu_e$ oscillation
disappearance

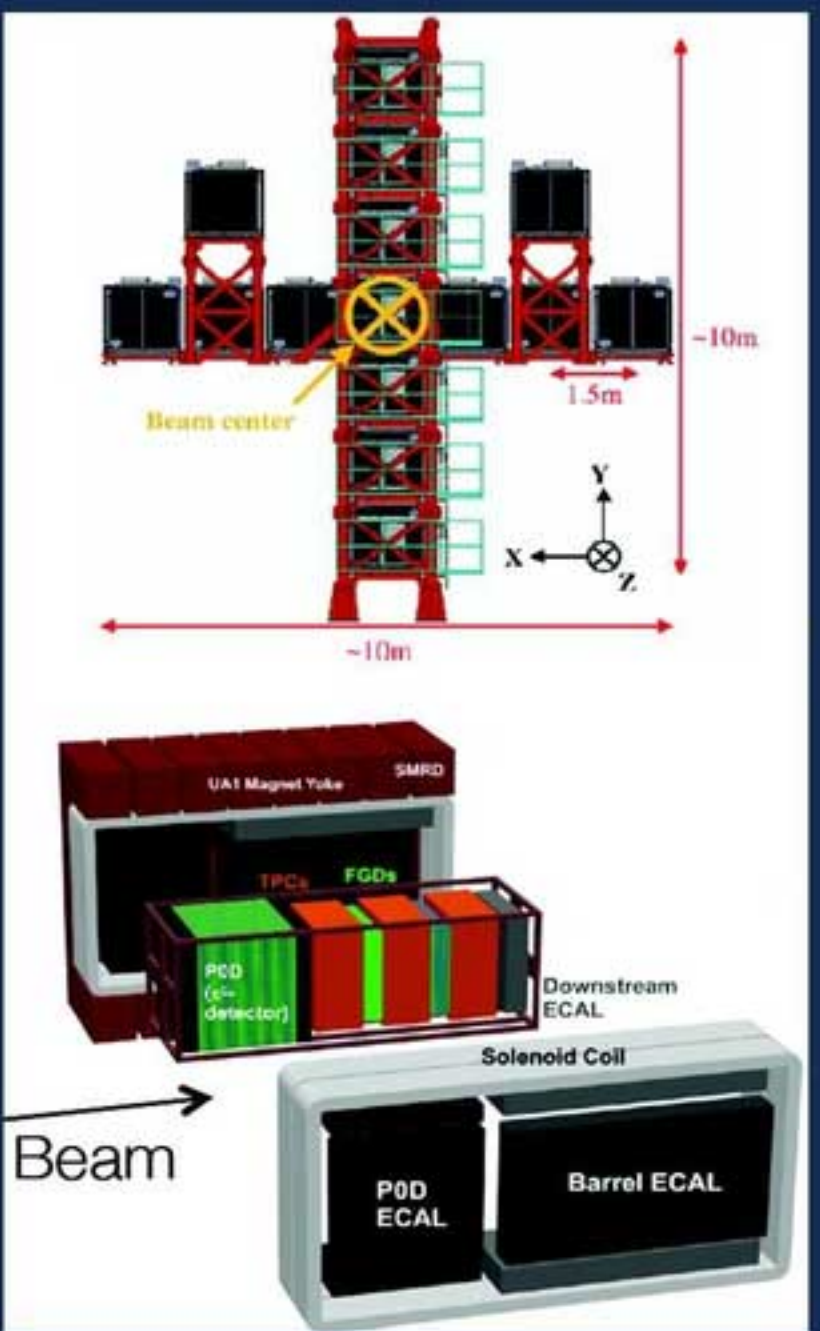
Long baseline (295 km) ν_μ beam



Far Super-Kamiokande detector
(2015 nobel prize)



Near detector suite

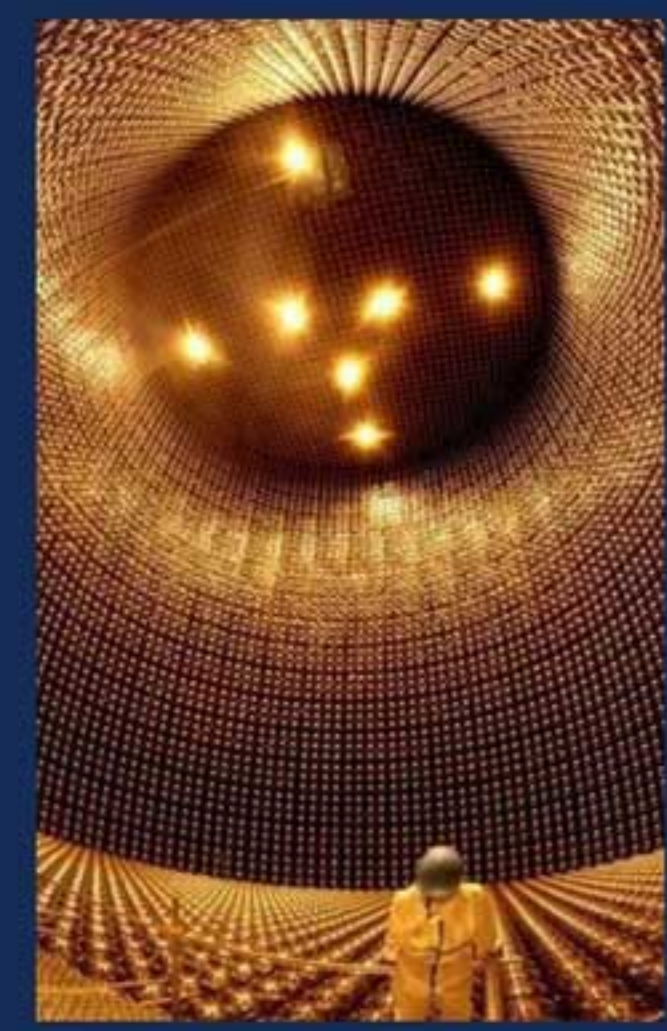


RAL involved in:

- Near detector DAQ, electronics
- Simulations
- Oscillation analysis

From T2K to HyperK:

- 50 kton \rightarrow 1 Mton water
- $10^4 \rightarrow 10^5$ PMTs



Physics reach:

- δ_{CP}
- Mass hierarchy
- p^+ decay
- SN neutrinos

