UNIVERSITÉ DE GENÈVE

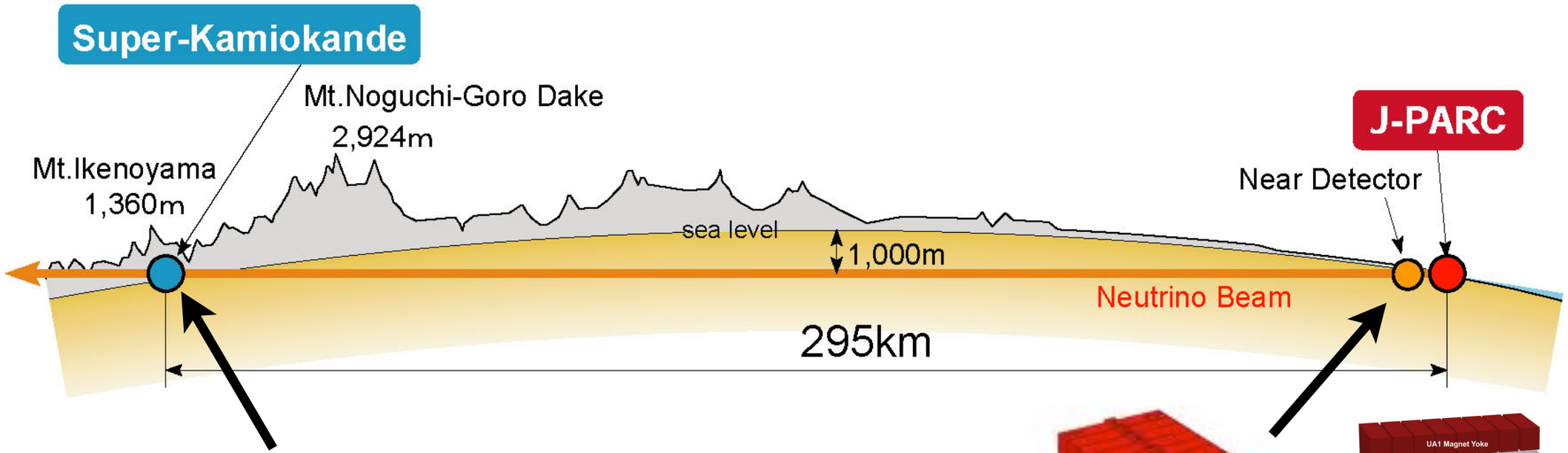
FACULTÉ DES SCIENCES

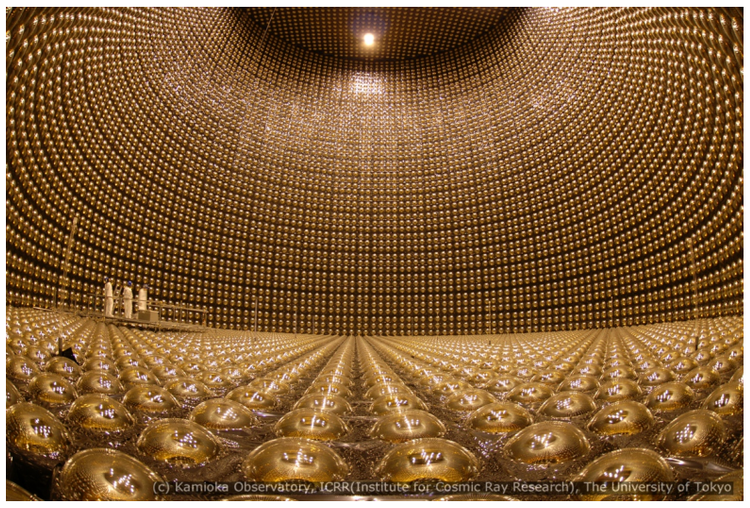
Statistical methods used for the analysis of CP violation and mass hierachy at T2K with the VALOR analysis framework

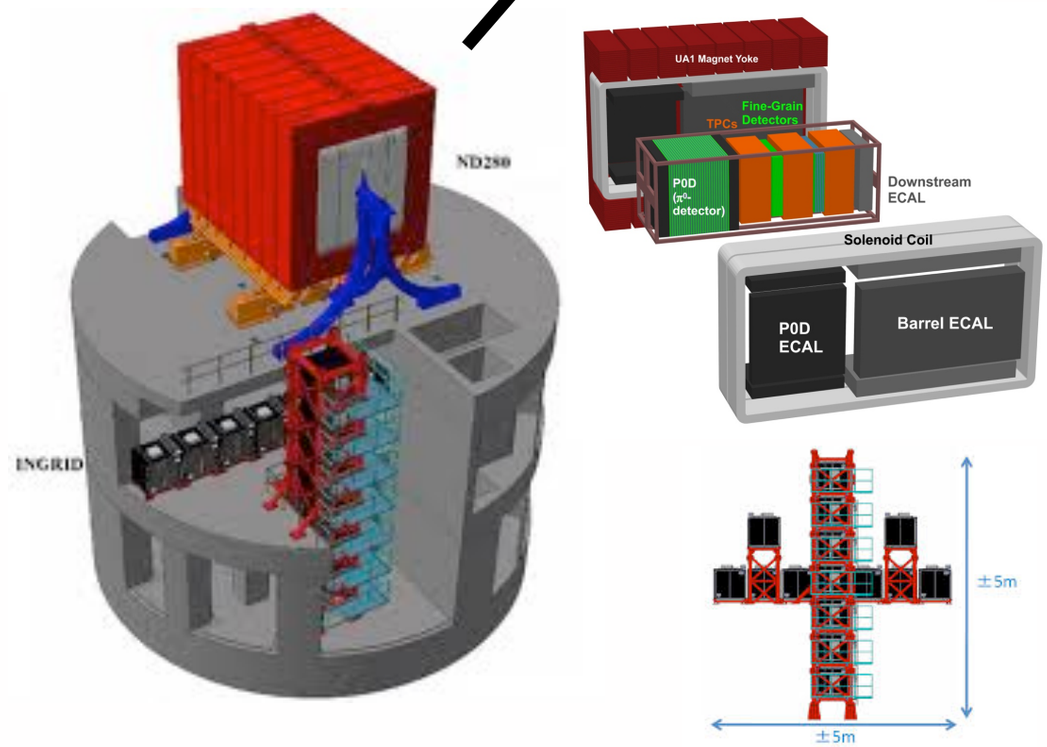
Davide Sgalaberna (University of Geneva)
for the T2K experiment and VALOR group

PhyStat-ν, 30/5/16

- T2K is neutrino oscillation long-baseline experiment (see Asher Kaboth's talk)
- Muon neutrino beam: measure $\nu_\mu \rightarrow \nu_e$ and $\bar{\nu}_\mu \rightarrow \bar{\nu}_e$







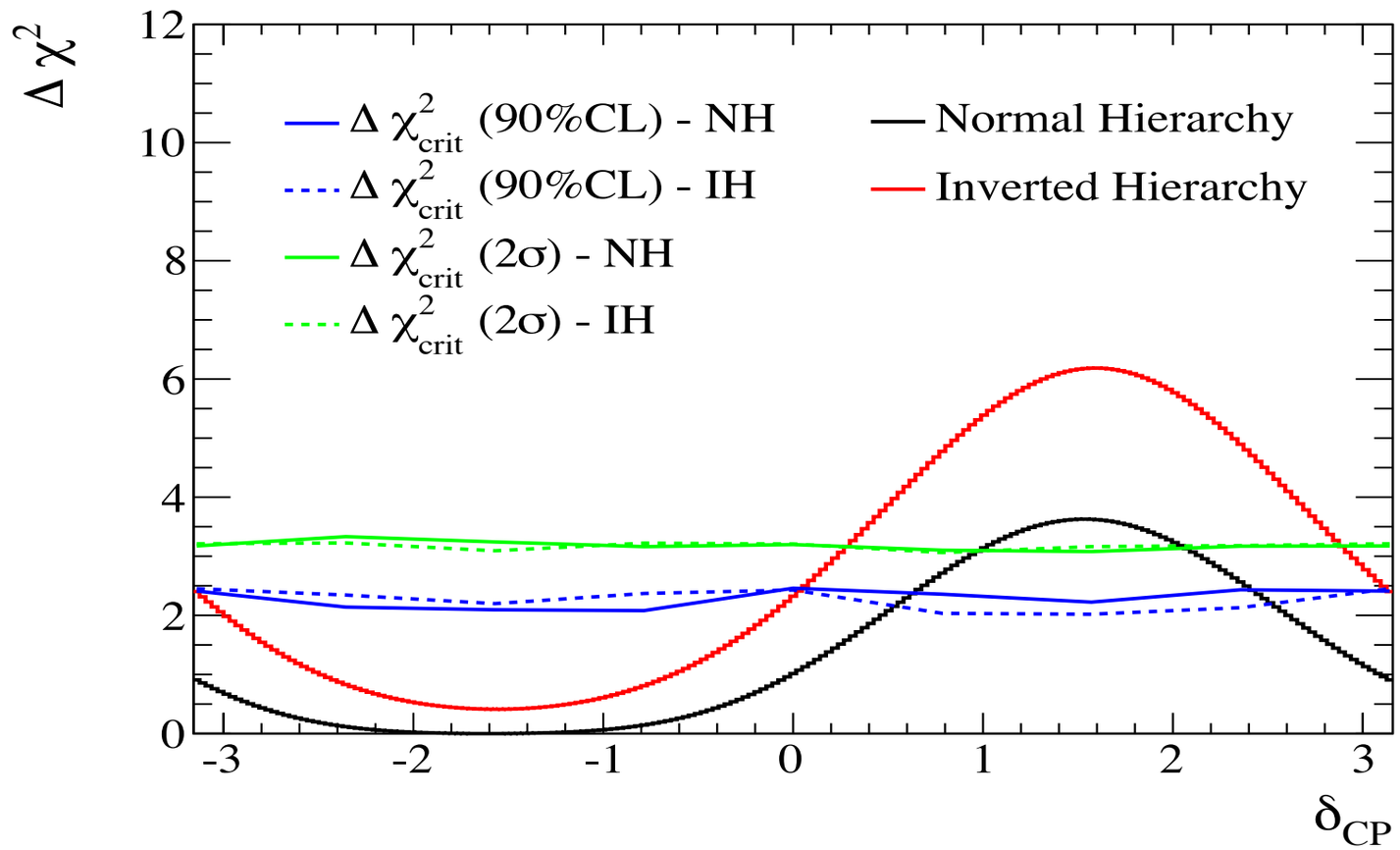
Far detector (Super-Kamiokande)

Near detector (ND280 and INGRID)

- Search for CP violation in leptonic sector
- Testing hypothesis for mass hierarchy

• VALOR analysis group: neutrino fitting group involved in several neutrino experiments (T2K, Hyper-K, DUNE, MicroBooNE, SBND)

• Sensitivity study to δ_{CP} and mass hierarchy at T2K:



• The poster will show the statistical methods used for the analysis