

# new appearance plans

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- Using the disappearance analysis code as a starting point for extrapolating the appearance+intrinsic background
- Development of the cross-section ratio measurement and evaluation of the flux systematic uncertainties
- Development of the  $\nu_{\mu}$  to  $\nu_e$  “extrapolation”
  - What are the best variables to use?
  - Additive, multiplicative or migration type correction?

Using the software tutorial from July 2014:

- <http://indico.ipmu.jp/indico/getFile.py/access?contribId=8&sessionId=6&resId=0&materialId=slides&confId=43>

And partial notes from the software tutorial Feb 2015:

- <https://www.evernote.com/shard/s435/nl/79831013/4fcd666b-f72c-4ece-8979-320723aee976/>

Get the disappearance code running

- Have all the files and software
  - SK files (sk\_mc) and nuprism\_numode\_1km flux, genev files
  - *Do we need set1 – set6 of the SK ntuple files? What is this?*
  - *Any significant software updates since Feb meeting?*
- Ran and produced coeffs for beam nue + osc using fit\_spectrum\_SKNue.cc
  - Plots reasonable, will want to check this after we rebuilt
- Ran numu\_nuprism\_selection executable
  - plots reasonable
- Started to run nuprism\_numu\_disappearance\_analysis

Look into what the best variable is which minimizes mass effects

- For the same energy, plot the lepton kinematics for CCQE muons and electrons; use the NEUT nuPRISM files