Atmospheric oscillation training

Training update

David Bravo (UAM)
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Training progress chart

1. **Generation of N-tuples**
   a) Use SK official rootfiles (no T2K for now)
   b) *./build_osc_ntuples* to create MC & data n-tuple variables for oscillation analyses for each event type (FC, PC, UM, tau)

2. **Conditioning of N-tuple variables**
   a) *Osc3++* framework - check variable plots
   b) Energy friending in order to account for energy reconstruction inaccuracies
   c) Binning in zenith angle and energy
   d) Oscillation of MC spectra/n-tuple variables

Today →

3. **Oscillation analysis and sensitivity studies**
   a) Sensitivity gauge through comparison of reference oscillated MC ("data") vs rest of oscillated MC
   b) Optimization of sensitivity
   b) χ^2 minimization of set of MC-oscillating parameters that best fits data

“Bugs” correction

- Update of basic environmental scripts
  (solves compilation and setting errors)

- Variable selection “cards” updating
  (solves rootfile name changes and old card-related usage problems)

- “Personal bugs” :)
  (understanding normal/abnormal data outputs)

Next immediate steps

- Understand well selection criteria for unoscillated variables
- Energy/angle binning
- Oscillation of MC variables
- Toy sensitivity studies in preparation for fitting
- Trial fittings and MC-to-data parameter derivation