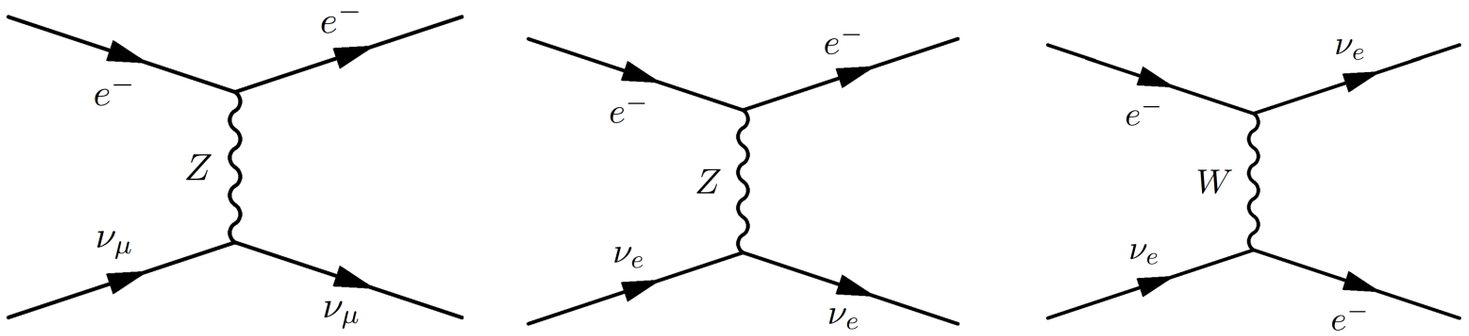
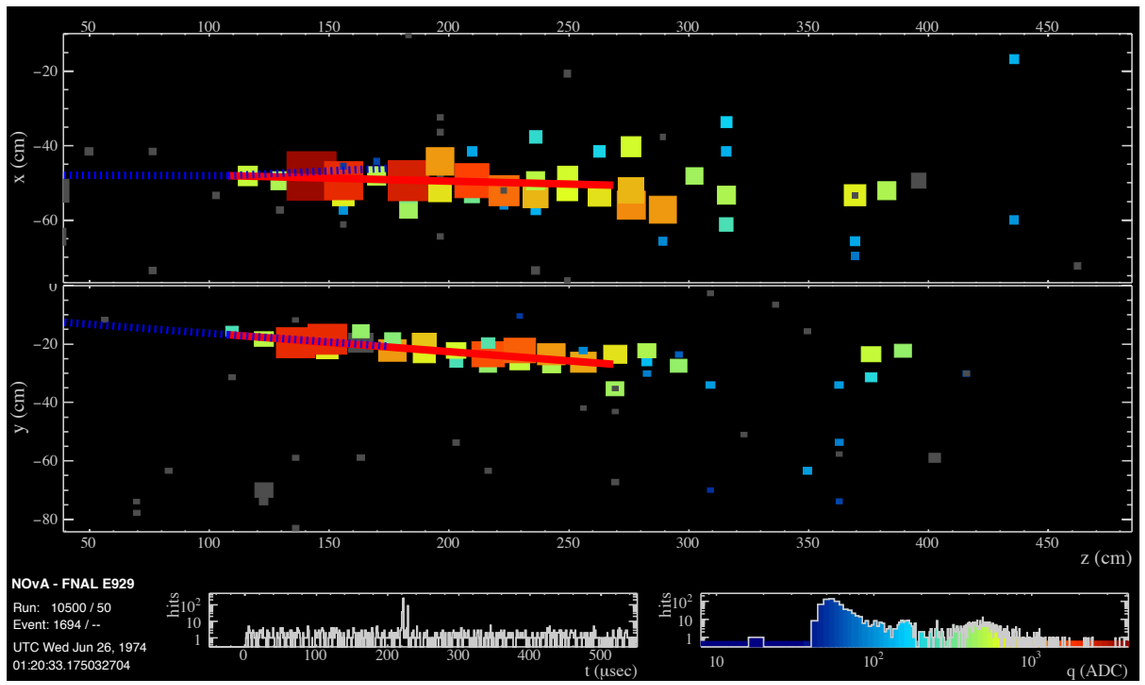
Measurement of Neutrino-Electron Scattering In The NOvA Near Detector



- Neutrinos can elastically scatter off electron:
  small but very well known cross-section, good for constraining neutrino flux.
- The signature of neutrino-electron scattering is one forward-going electron collinear with incoming neutrino beam, best quantified by a very small value of EeTheta2
- The NOvA near detector has very good resolution and statistics for the measurement of neutrino-electron scattering.



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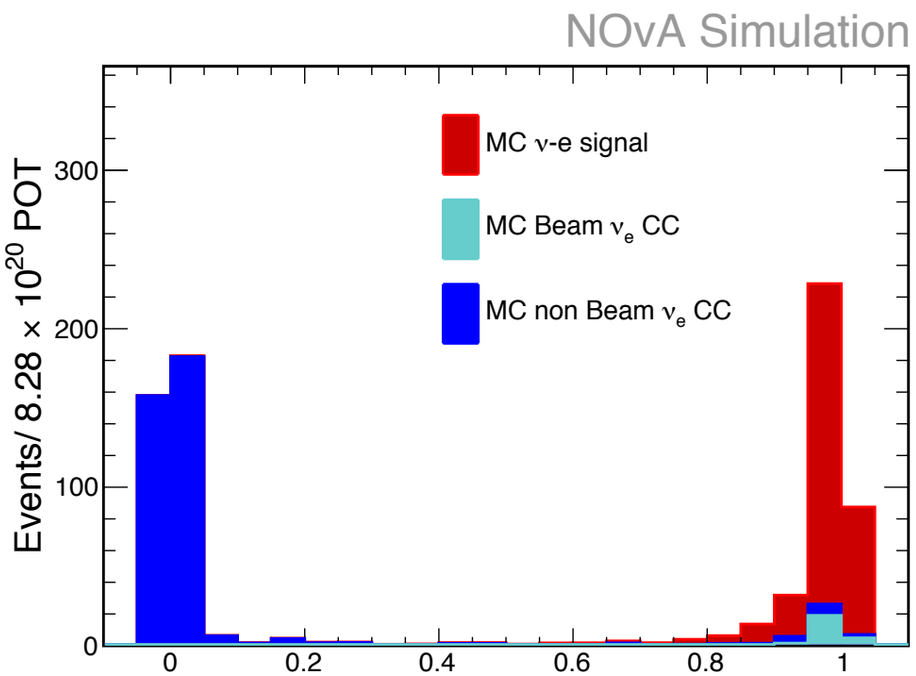
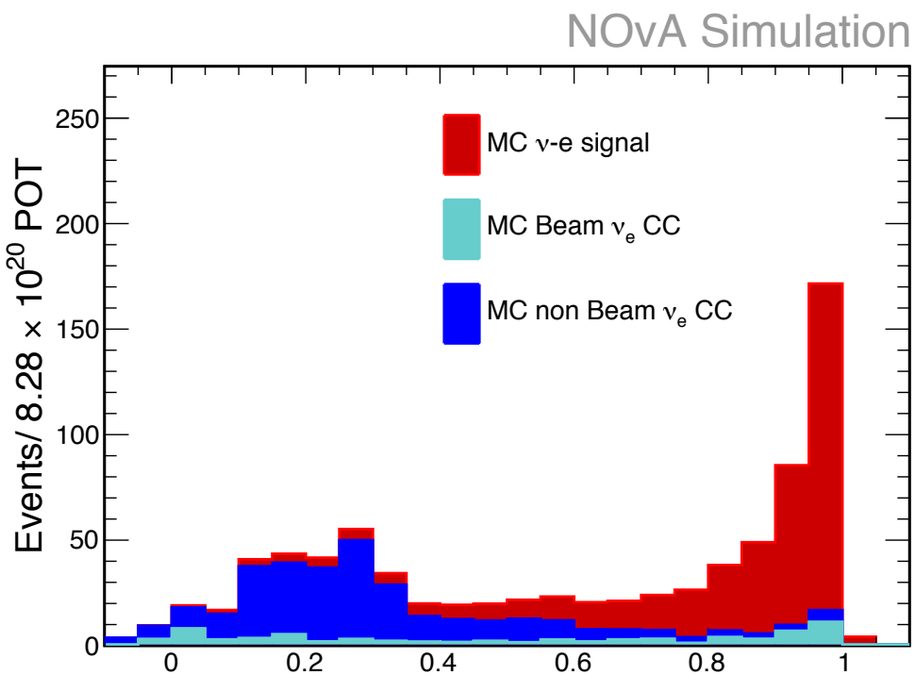
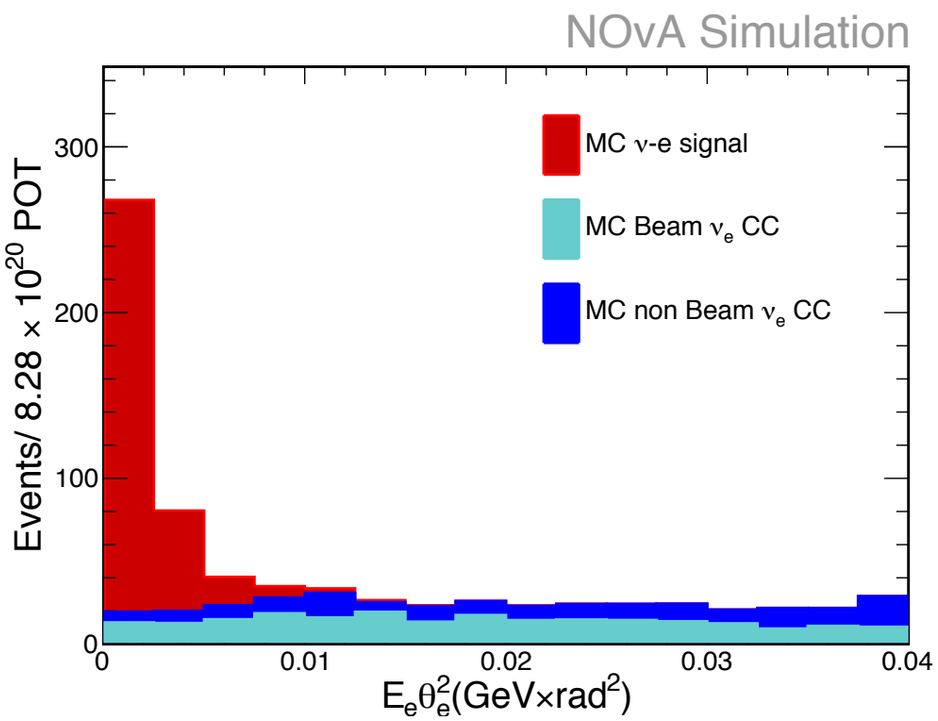


ν-e PID



e/π^0 PID



- PID algorithms are ready for signal selection.
- We expect: ~290 neutrino-electron scattering signal events (after background subtraction)
- Data-driven tools to constrain the systematic uncertainties.
- Expect an absolute flux measurement with ~9% uncertainty.