Contribution ID: **354** Type: **Poster**

Non Oscillation Physics in NOvA

The NOvA experiment will illuminate aspects of neutrino oscillation parameters which are currently unknown, including the octant of θ_{23}, the Dirac CP phase, and the neutrino mass hierarchy. However NOvA also has capabilities for clarifying other properties and scattering phenomena involving neutrinos. This Poster will describe two such measurements to be carried out using the NOvA Near Detector which illustrate the latter capabilities of the experiment. These measurements are: 1) limit-setting or determination of the ν_μ magnetic moment using ν_μ-electron scattering; and 2) measurement of charged- current neutrino-carbon cross sections into final states of low hadronic multiplicity. In particular, quasi-elastic scattering on carbon can be examined for evidence of nuclear medium effects such as meson exchange currents and multi-nucleon correlations.

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Track Classification: Neutrino Interactions