Abstract Submitted
for the APR17 Meeting of
The American Physical Society

**The NOvA $\nu_e$ Appearance Analysis** MARCO COLO, William Mary Coll, NOVA COLLABORATION — Since neutrino oscillations were first detected, oscillation experiments have managed to measure most of the parameters that govern this phenomenon. Major unknowns remain: the mass ordering - whether $\nu_3$ is the heaviest neutrino state, or the lightest; CP Violation - whether neutrino oscillation violate CP symmetry, and, if so, how big is the CP-violating phase $\delta_{CP}$; and, the $\theta_{23}$ octant - whether the value of $\theta_{23}$ resides in the lower octant ($\theta_{23} < 45°$) or upper octant ($\theta_{23} > 45°$) or is exactly maximal ($\theta_{23} = 45°$). NOvA, with its 810 km baseline, the longest of any currently running experiment, and its capability to switch between a $\nu_\mu$ source and a $\bar{\nu}_\mu$ source, is extremely well positioned to address these questions. In this talk, I will discuss the $\nu_e$ appearance analysis in NOvA: I will illustrate the analysis method, discuss the results that we have obtained in the latest round of analysis, and talk about what we expect from future runs.

Marco Colo
William
Mary Coll

Date submitted: 30 Sep 2016 Electronic form version 1.4