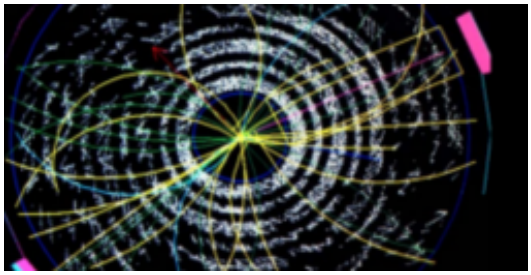

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CC coherent/diffractive Pion Production at MINERvA in the NuMI ME era

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Charged Current Coherent pion production is a rare neutrino reaction producing a forward muon and a forward charged pion while leaving the target nucleus in its initial state. On its own, it provides a way to study the weak axial vector current, by testing theories such as PCAC and related models. After the discovery of neutrino oscillations, coherent pion production has become an important reaction, helping to reduce systematic uncertainties in both the signal and background of oscillation studies. MINERvA, a neutrino scattering experiment, has already published an analysis of coherent pion production in plastic scintillator (CH) using the NuMI low energy neutrino and anti-neutrino beams at Fermilab. The current NOvA era, with a more energetic and intense NuMI beam, allows an improved charged current coherent analysis, which is at the first stages. Here we present the highlights of both analyses.

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