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INPP Seminar | Coherent Vector Meson Photoproduction off Deuterium using CLAS at JLab, Jan 22

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The Institute of Nuclear and Particle Physics (INPP) presents Taya Chetry, of Ohio University, on Coherent Vector Meson Photoproduction off Deuterium using CLAS at JLab, on Tuesday, Jan. 22, at 4 p.m. in Edwards Accelerator Lab, Roger W. Finlay Conference Room.

Taya Chetry

Abstract: Photoproduction is a useful tool in understanding the strong force in nature. To probe this, coherent vector meson photoproduction from the deuteron has been studied using CLAS at Jefferson Lab, Virginia, as a function of the photon energy and the 4-momentum transfer. Tagged photons with beam energies between 0.8 and 3.6 GeV were produced using the bremsstrahlung process incident on a deuterium target. Using the detection sample two vector meson channels ($\gamma d \rightarrow \omega d$ and $\gamma d \rightarrow \rho d$) are investigated separately and their differential cross sections are measured. A rescattering model based on the Vector Meson Dominance is used to extract the total cross-section for the vector meson-Nucleon scattering. The results dramatically improve the world data in the kinematic regime investigated.