

Physics Division Seminar

Zhihong Ye

Physics Division, ANL

The Tritium Experiments

Host: José Repond

Monday, January 28, 2019 – 203, R150, 3:30 PM

Recently, after nearly a whole year of data taking, four highly rated Tritium experiments, including two Argonne-led experiments, have been concluded successfully in Hall A at Jefferson Lab. The Tritium program utilized the Tritium and Helium-3 minor nuclei as sensitive model-independent probes to study the d/u ratio at high- x , explore the neutron's internal structure, as well as investigate the nucleon-nucleon interactions in three-body systems. The Argonne MEP group played a leading role in preparing and running the entire program. In particular, Dr. Roy Holt's original design of the Tritium target system made the running of the program possible. In this talk, I will introduce the physics motivation of the program, share the details of carrying out these experiments, discuss the current status of the data analysis, and review perspectives for future experiments.