



LBNL Nuclear Physics Forum

Thursday, February 15, 2018 @ 11:00 am

Building 88 Lounge (2nd floor)

Cookies and coffee available from 10:45am

Dr. Clementine Santamaria

NSCL/Michigan State University

“Nuclear Physics with Time Projection Chambers”

Time Projection Chambers (TPC) are very versatile detectors which are now widely used in different fields of nuclear physics. The last five years have been marked with the development of new TPCs such as MINOS, SpiRIT, and AT-TPC.

MINOS, a TPC coupled to thick liquid hydrogen target developed at CEA Saclay, has been used as an ancillary tracker for the gamma spectroscopy of very exotic nuclei at the RIBF facility in Japan since 2014. Heavy ion collisions with different Pb beams on Pb targets have been successfully performed at the RIBF using the MSU developed SpiRIT TPC to measure the pion ratio and probe the symmetry energy term of the nuclear equation of state at 270 A MeV.

AT-TPC is an active target TPC developed for the new low energy ReA3 line of the NSCL. This detector is widely used for transfer reactions but also in the latest experiment to measure fission cross sections with the conjunction of a solid target in the chamber.

