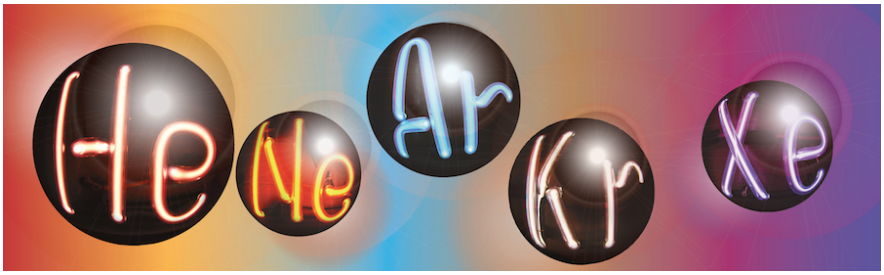

Contribution ID: **47** Type: **Presentation**

Measurement of Electronic Recoil Response and Electronic/Nuclear Recoils Discrimination of low energy in XENON100

Friday, 22 September 2017 10:30 (15 minutes)

The XENON100 detector uses liquid xenon time projection chamber to search for nuclear recoils(NR) caused by hypothetical Weakly Interacting Massive Particles (WIMPs). The backgrounds are mostly electronic recoils(ER), thus it's crucial to distinguish NR from ER. Using high statistical calibration data from tritiated methane, AmBe and other sources in XENON100, the ER/NR discrimination under different electric fields and photon detection efficiency are measured. The Photon yield and recombination fluctuation of low energy electronic recoils under different fields will also be presented and compared to results from NEST and other experiments, which is crucial to understanding the response of liquid xenon detectors in the energy regime of searching dark matter.

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