



Contribution ID: 31

Type: not specified

Electronic versus nuclear recoil discrimination in liquid xenon with PIXeY

Wednesday, 15 September 2021 08:00 (15 minutes)

The two-phase liquid/gas xenon time projection chamber is one of the leading technologies for dark matter direct detection. A crucial part of using this technology is being able to classify energy deposits as nuclear recoils (NR) or electronic recoils (ER). This allows upcoming experiments like XENONnT and LZ to mitigate ER backgrounds like Rn daughters and solar neutrinos. I will present an analysis of ER-NR discrimination, using data from the PIXeY (Particle Identification in Xenon at Yale) experiment. PIXeY was an R&D-scale xenon TPC that operated at drift fields between 50 and 2000 V/cm; its data allows us to study discrimination across this wide range of fields, as well as its dependence on recoil energy.

Primary author: VELAN, Vetri (University of California, Berkeley)

Co-author: PIXEY COLLABORATION

Presenter: VELAN, Vetri (University of California, Berkeley)

Session Classification: Light/Charge Response (2A)

Track Classification: Light/charge response in noble elements