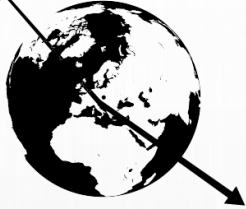


IDM 2022



14th International Conference on
Identification of Dark Matter

18-22 July 2022
Vienna, Austria

UNDERSTANDING AND REDUCING THE ACCIDENTAL COINCIDENCE BACKGROUND IN THE LUX-ZEPLIN EXPERIMENT

DAN HUNT

UNIVERSITY OF OXFORD

Poster 260



- LUX-ZEPLIN (LZ) IS A DUAL-PHASE TPC DESIGNED FOR SENSITIVITY TO SPIN-INDEPENDENT WIMP-NUCLEON CROSS SECTIONS
- ISOLATED PHOTONS AND ELECTRONS IN THE TPC MAY BE INCORRECTLY IDENTIFIED AS A SCATTERING EVENT, DECREASING WIMP SENSITIVITY
- CUTS HAVE BEEN DESIGNED EXPLOITING THE PROPERTIES OF THESE SOURCES, REDUCING THE PREDICTED ACCIDENTALS IN LZ'S FIRST SCIENCE RUN TO ~ 1
- THIS UNDERSTANDING WILL BE EXTENDED TO A SEARCH USING EXCLUSIVELY ELECTRON SIGNALS IN FUTURE SCIENCE RUNS OF LZ