



Contribution ID: 7

Type: **not specified**

DARWIN: the next-generation of xenon time projection chambers

Tuesday 1 October 2019 09:45 (45 minutes)

Most promising detectors to search for particle dark matter are the xenon dual-phase time projection chambers (TPCs). This technology is by now well-established and can be scaled up to ton-scale. In this context, the XENON1T experiment currently holds the world-leading limit for direction detection of Weakly Interacting Massive Particles (WIMPs). Their next stage, XENONnT, will get a better sensitivity due to a much-increased exposure and a better self-shielding. And finally, DARWIN, a proposed next-generation TPC, with 50 tonnes of natural xenon, will be able to explore the entire experimentally accessible parameter space for WIMPs. Besides this unprecedented sensitivity to WIMPs, a large detector like DARWIN, with its low-energy threshold and ultra low background level, will be sensitive to other rare interactions as well.

Presenter: SANCHEZ LUCAS, P.

Session Classification: Day 2