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Search for dark matter with XENONnT

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The XENONnT experiment, located in Laboratori Nazionali del Gran Sasso (LNGS), is a direct detection experiment designed to search for Weakly Interacting Massive Particles (WIMPs) using a dual-phase time projection chamber with 8.5 tonnes of xenon. The experiment began collecting science data in 2021 and is currently in operation. In its first science run (SR0), the experiment achieved an electronic recoil background of 15.8 events/(tonne-year-keV) below 30 keVee, establishing a new benchmark as the lowest background recorded in a dark matter detector. This achievement was made possible by reducing the amounts of radioactive Kr-85 and Rn-222 to an unprecedented low level. With the SR0 data, XENONnT has excluded new physics interpretations of the XENON1T excess and released the first WIMP search results. In this talk, I will present the first two results from XENONnT and the experiment's outlook.

Primary author(s) : Prof. YE, Jingqiang (The Chinese University of Hong Kong, Shenzhen)

Presenter(s) : Prof. YE, Jingqiang (The Chinese University of Hong Kong, Shenzhen)