

DMUK Meeting - UCL

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University College London

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Welcome

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Dark Matter Heating

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Dark Matter searches at the LHC

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Axions and non-WIMP searches

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WIMP Direct Detection

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Results from the LUX experiment

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The SABRE dark matter search experiment

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Indirect dark matter searches and CTA

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Direct Detection of Nuclear Dark Matter Using Tonne-Scale Experiments

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Summary:

Nuclear dark matter models propose a possible composite form of dark matter, dark matter nuclei, which are analogues to Standard Model nuclei. We present possible nuclear dark matter direct detection signals in the DEAP-3600 and XENON1T experiments for a particular class of nuclear dark matter. The number of events required to distinguish between this case and a standard point-like WIMP state is presented for each experiment. We find that, in the most favourable regions of the parameter space, it is possible to distinguish nuclear dark matter from WIMPs at the 3σ level using both experiments in combination, while at best a 2σ distinction is possible individually.

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Directional dark matter searches with the DRIFT and CYGNUS-TPC experiments

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The DEAP-3600 experiment at SNOLab

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Low-background radio-assay capability in the UK

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The LZ experimental hardware systems

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Software development for the LZ experiment

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Directional detectors with polarised targets

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