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Status of the DRIFT-II Directional Dark Matter Detector[1]
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DRIFT is a directional dark matter detection programme that utilises the fact that as the Earth rotates and revolves around the Sun, an annual and diurnal signal modulation could be detected as a result of relative motion between the Earth and the non-rotating WIMP halo. This would provide very strong evidience of WIMPs since such a signal could not be mimicked by background sources. DRIFT II is an array of gas filled time projection chambers (TPCs) with Multi Wire Proportional Counter (MWPC) readout. Signals from different types of events differ greatly, between nuclear and electron recoils for example, due to the amount of ionisation initially produced and recombination times. This provides phenomenal discrimination capabilities. The first module of the DRIFT-II detector was successfully installed underground at Boulby Mine, N. Yorkshire early last year and has proven very stable, collecting high quality calibration and WIMP data. Since then a second module has been installed and is also currently operational. This presentation will describe the status of the detector and will focus on the determination of neutron efficiency and gamma rejection factors.

[1]On behalf of the DRIFT Collaboration

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