



Contribution ID: 114

Type: **Talk**

## CYGNUS - a multi-latitude directional WIMP experiment

*Friday, July 27, 2018 8:50 AM (20 minutes)*

The CYGNUS effort aims to produce a network of direction sensitive detectors able to probe below the neutrino floor and to reach into the low WIMP mass region with active discrimination against electron background. The new prospect of operation in both Southern and Northern hemisphere underground laboratories opens further possibilities. Latest progress with prototypes towards the goals of CYGNUS will be presented, including the new prospect of direction sensitive gas TPCs operating at atmospheric pressure using He and negative ion SF<sub>6</sub>. New background estimates and simulations of directionality and recoil identification at low energy with different charge readout technologies are presented. These underpin sensitivity calculations for a first stage 10m<sup>3</sup> device which itself can reach the neutrino floor in principle.

**Primary author:** Prof. SPOONER, Neil (University of Sheffield)

**Presenter:** Prof. SPOONER, Neil (University of Sheffield)

**Session Classification:** 5.1 Plenary

**Track Classification:** Directional Detection