



Contribution ID: 532
compétition)

Type: **Oral (Student, In Competition) / Orale (Étudiant(e), inscrit à la**

Direct Detection Prospects for Higgs-portal Singlet Dark Matter

Monday 15 June 2015 16:45 (15 minutes)

There has recently been a renewed interest in minimal Higgs-portal dark matter models, which are some of the simplest and most phenomenologically interesting particle physics explanations of the observed dark matter abundance. In this talk, we present a brief overview of scalar and vector Higgs-portal singlet dark matter, and discuss the nuclear recoil cross sections of the models. We show that, given a reasonable range for the theoretical uncertainties in the calculation, the expected cross sections are found in the region of the parameter space that will be probed by next generation direct detection experiments. In particular, within two years of operation the XENON1T experiment should be able to make a strong statement about Higgs-portal singlets.

Author: SAGE, Fred (University of Saskatchewan)

Co-author: DICK, Rainer (University of Saskatchewan)

Presenter: SAGE, Fred (University of Saskatchewan)

Session Classification: M2-7 Cosmic frontier: Dark matter I (PPD-DTP) / Frontière cosmique: matière sombre I (PPD-DPT)

Track Classification: Theoretical Physics / Physique théorique (DTP-DPT)