

# Séminaire

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## The Search for Dark Interactions with interpretation for dark matter

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*Hidden sector or dark sector states appear in many extensions to the Standard Model, to provide a candidate for the dark matter in the universe or to explain astrophysical observations of positron excesses. A hidden or dark sector can be introduced with an additional  $U(1)_d$  dark gauge symmetry. The presence of the dark sector could be inferred either from deviations from the SM-predicted rates of Drell-Yan (DY) events or from Higgs boson decays through exotic intermediate states. The discovery of the Higgs boson during Run 1 of the Large Hadron Collider opens a new and rich experimental program that includes the search for exotic decays  $H \rightarrow Z Z_{\text{dark}} \rightarrow 4\ell$  and  $H \rightarrow Z_{\text{dark}} Z_{\text{dark}} \rightarrow 4\ell$ , where  $Z_{\text{dark}}$  is a dark vector boson.*

Vendredi 6 octobre 2017, à 14:30  
Claire-McNicoll, Z-255  
Café-biscuits à 14:00 au V-221

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