

# Higgs in Space!

*Monday, 7 September 2009 17:55 (15 minutes)*

We consider the possibility that the Higgs can be produced in space in dark matter annihilations and its mass determined by measuring the spectrum of gamma ray lines. We provide a simple class of models where the dark matter is a Dirac fermion that couples to a new  $Z'$  that dominantly annihilates into top quarks. The class of models under consideration turns out to arise naturally in the context of Randall–Sundrum models and more generally in models where the top quark has strong couplings with the dark sector.

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**Session Classification:** Dark Matter