Contribution ID: **131** Type: **Poster**

Indirect detection of long-lived particles via a less-simplified dark Higgs portal

In this poster I will present recent paper dedicated to indirect detection of long-lived particles in a light dark Higgs portal. I will illustrate the phenomenology of this model, focusing on the signatures of DM and long-lived particles (LLP) in complementary experimental searches. These include i) the intensity frontier searches for light new physics, ii) indirect detection (ID) of secluded WIMPs, and iii) future CMB radiation surveys. Finally, I will highlight the important role of non-local effects present in the ID of LLPs which significantly affects the detection strategies, usually tailored to WIMPs. These effects include a) an additional contribution to the photon flux due to the "GC diffusion" effect, b) a linear flux decrease in the long-lived regime due to finite DM density support, and c) a faster flux decrease with LLP decay length for observations focused on small regions of interest, compared to large ones.

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Yes

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