

# Indirect Searches for Secluded Dark Matter

Clarissa Siqueira - IFSC/USP

## 1. What is this contribution about?

Indirect gamma-ray searches for Secluded DM, where instead of annihilating directly into SM particles, the DM annihilates into metastable mediators.

## 3. What have we done?

We used data from H.E.S.S. and the prospects to CTA and SWGO to compute the limits/sensitivity on the velocity averaged annihilation cross-section

versus DM mass to secluded scenarios. We also compared with previous studies using Fermi-LAT data, looking at dSphs.

## 2. Why is it relevant / interesting?

Secluded models can escape from the current stringent bounds from direct/collider searches. For the first time, we also showed the sensitivity of the Southern Hemisphere future telescopes to Secluded DM.

## 4. What is the result?

We showed that CTA and SWGO will be able to probe a large fraction at TeV DM mass scale, which provides the thermal annihilation cross-section.

icr

Sponsor & Local Organization

