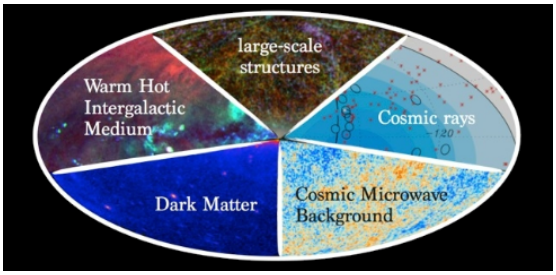

Contribution ID: **52** Type: **not specified**

Probing WIMP Dark Matter with gamma rays and over 1000 degˆ2 of weak lensing data

Tuesday 12 April 2016 15:00 (20 minutes)

Weakly interacting massive particle (WIMP) dark matter has a small but non-zero interaction cross-section with standard model physics. Gamma-rays from dark matter annihilations could then be observable by gamma-ray telescopes such as Fermi-LAT and used to constrain the annihilation cross-section. Cross-correlation of gamma-rays with tracers of dark matter improves the sensitivity and avoids many of the systematics inherent to auto-correlation analyses.

Gravitational lensing is an unbiased tracer of matter and thus a prime candidate to cross-correlate the gamma-ray sky with. I will present the cross-correlation of Fermi-LAT gamma-rays with CFHTLenS, RCSLenS, and KiDS weak lensing data-sets, covering a total area of over 1000 deg2, and the resulting constraints on the WIMP annihilation cross-section.

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