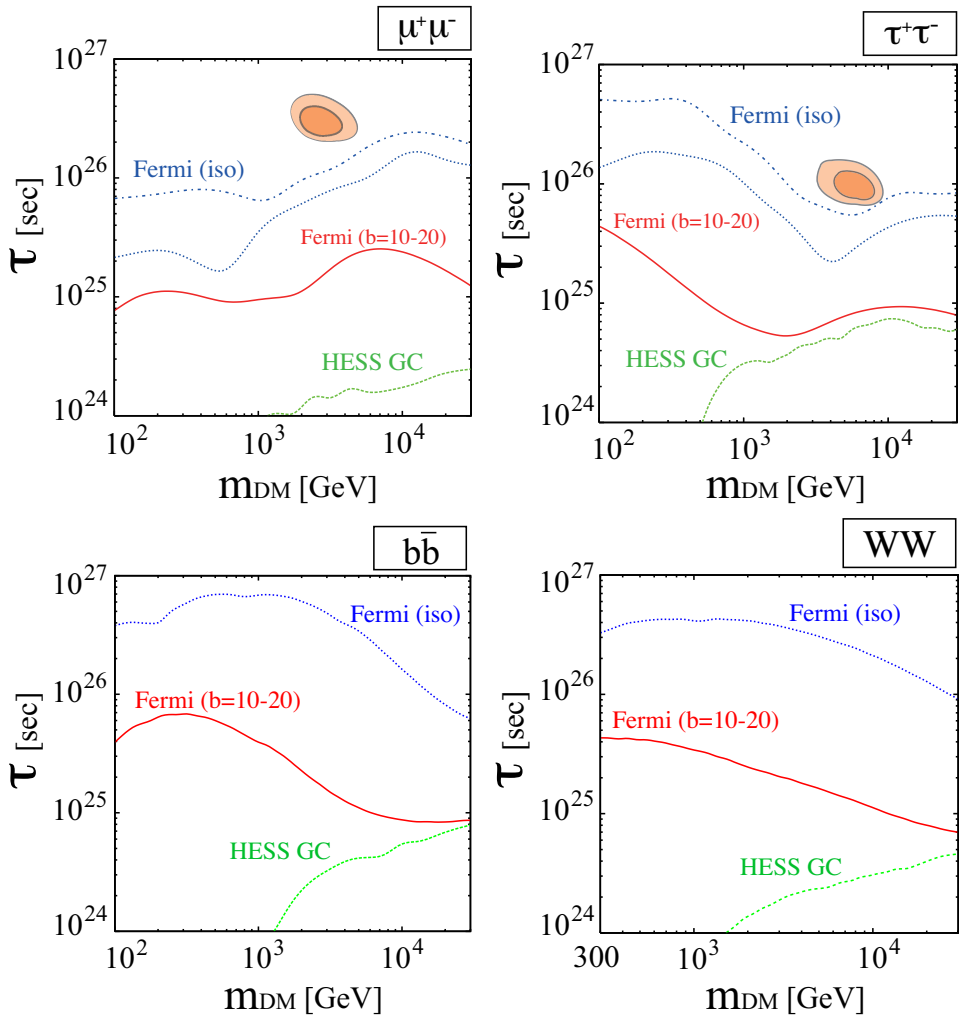
Fermi Isotropic γ Constraints on DM Decays to Hadrons

C.-R. Chen, SKM, F. Takahashi [arXiv:0910.2639]

- DM decay to $\mu^+\mu^-$, $\tau^+\tau^-$ explains PAMELA/Fermi $e^\pm$ excess, what else is allowed?
- γ from gal. and ex-gal. fragmentation, FSR, ICS
- Using Fermi isotropic data, also mid-lat. and HESS GC
- Not much! $\mathcal{O}(10\%)$
- DM must decay *primarily* into $\mu^+\mu^-$, $\tau^+\tau^-$



DM Constraints from Cascade Events at IC+DeepCore

SKM, M. Buckley, K. Freese, D. Spolyar, H. Murayama [arXiv:0911.5188]

- Track-like events due to ν_μ charged-current
- Cascade events due to:
  - ν_e, ν_τ charged-current
  - Neutral-current from all flavors
- Advantages of cascade events:
  - Lower background
  - Higher signal
- Constraints accelerated/improved by factor ~ 3