

# Sample Expected Limits with New Effective J- factors

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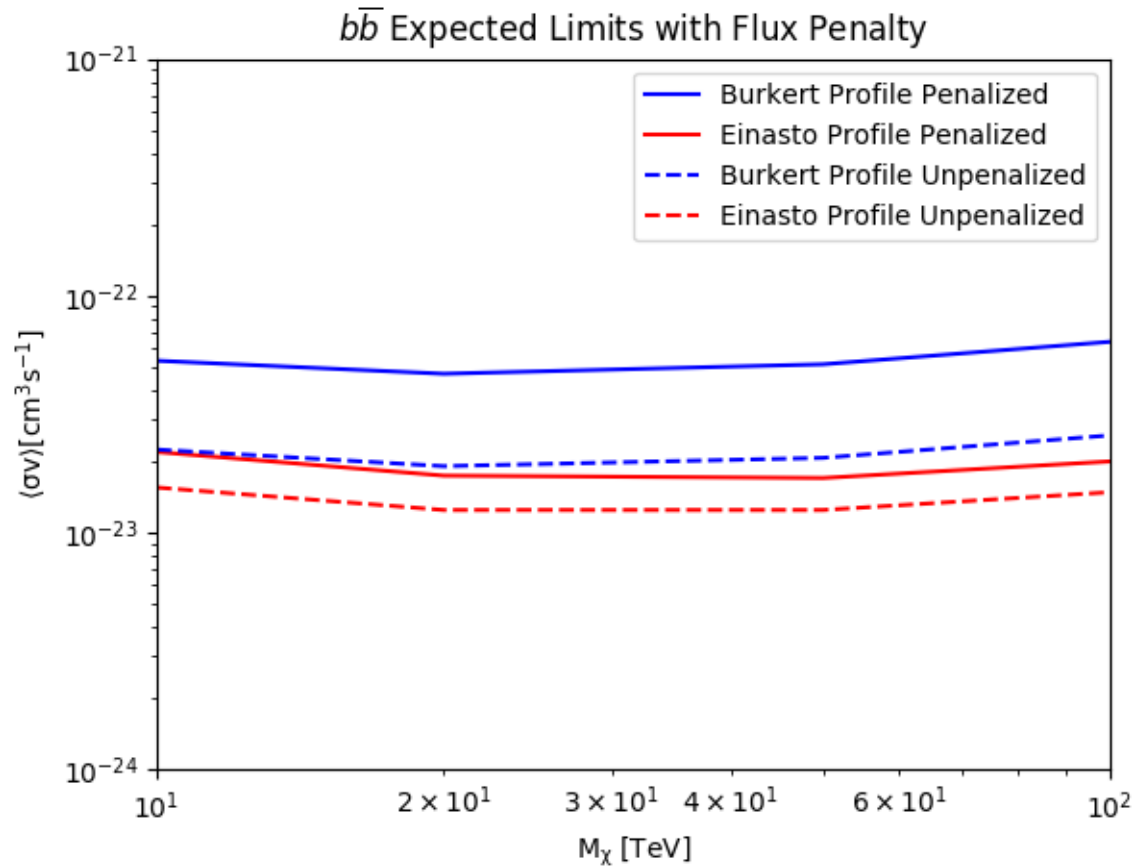
# Updates

- Pooja presented details on alpha factor on Tuesday
- She uses a profile-likelihood approach to background
  - Tophat analysis
  - Uses overall estimated background in a given tophat as nuisance parameter
  - Not clear how to generalize this to PSF-based analysis
- Also does not use bins 1 and 2
  - Background distribution was not well-understood, even with profile approach
  - Will be excluding these bins in my analysis for now

# Expected Limits

- Test how effective J-factors from last week effect limits
- Set  $\text{data} = \text{bkg}$  in each pixel
- Compute limits in this true null case
- Neglect inclusion of bkg as free parameter
  - Its identically optimized at the measured value in this case anyway
  - Mostly want to test sensitivity with new spatial templates

# Results



- Corrected templates make a bigger difference for Burkert than Einasto (as expected)
- Limits are less sensitive, but only by at worst a factor of 2