

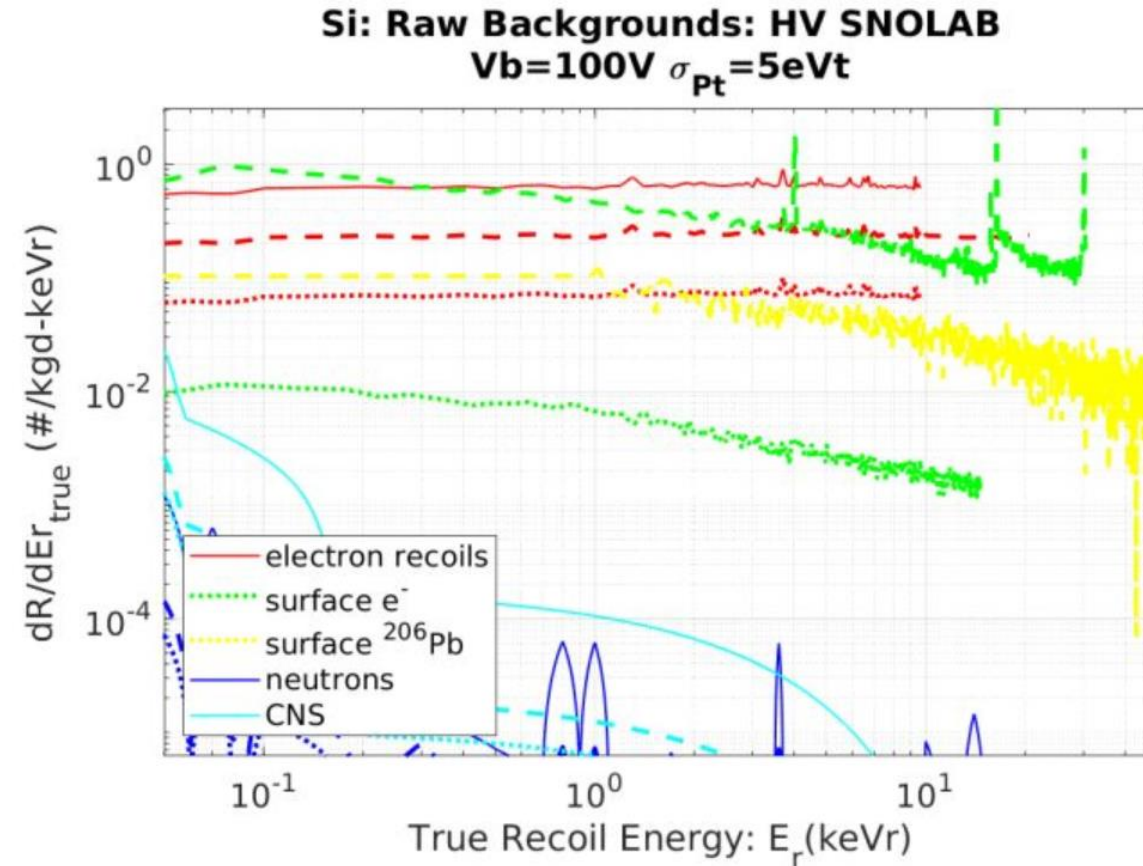
Weekly Meeting

June 13 2018

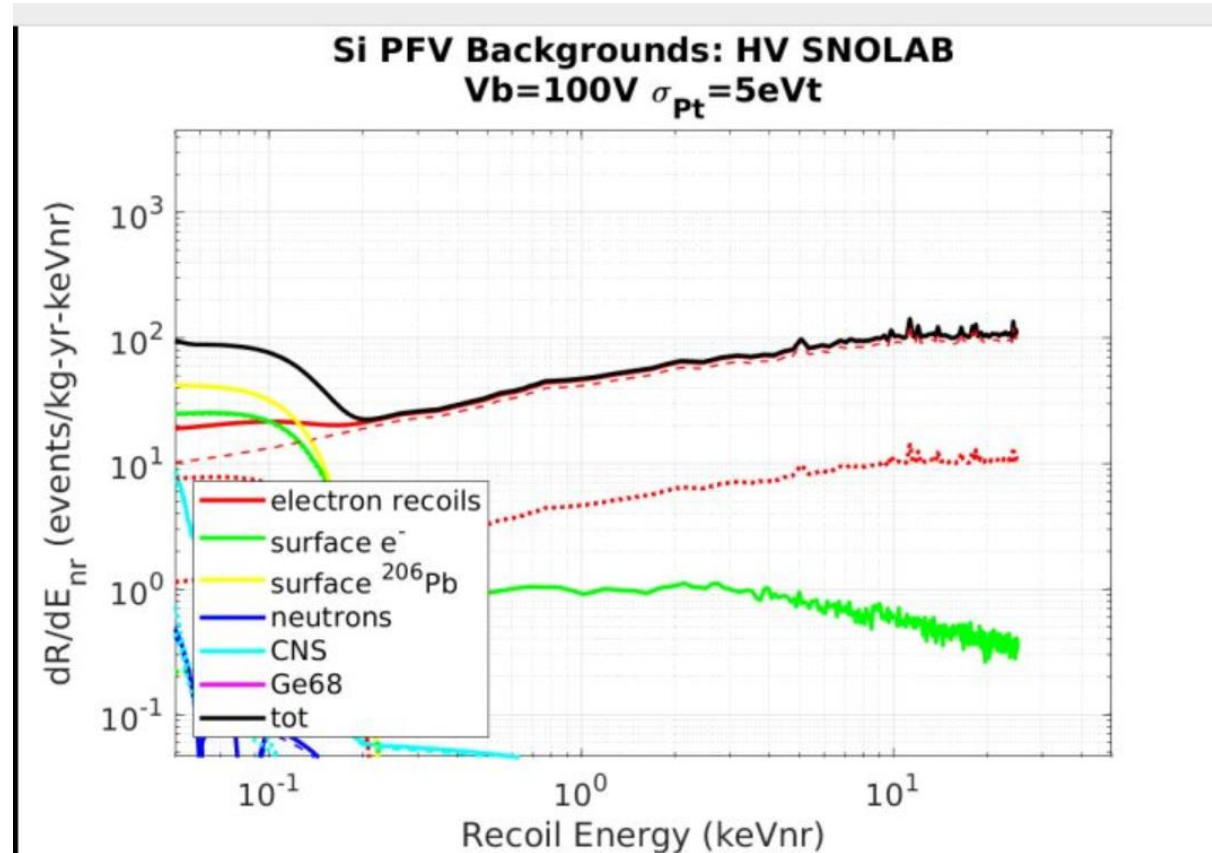
SNOLAB Projections

- Been able to successfully run sensitivity code for SNOLAB wimp projections
- Been able to successfully run/generate limit plot for dark photon limit on CDMSLite data
- Need to combine the two – feed the projected snolab spectrum into the dark photon limit calculation
 - Background spectrum is in an object called SimData1D in sensitivity code – need to understand how this can fit in to limit code
 - Background spectrum generated in sensitivity code is in keV_nr...does this need to be changed for doing dark photon limits?

SNOLAB Projections



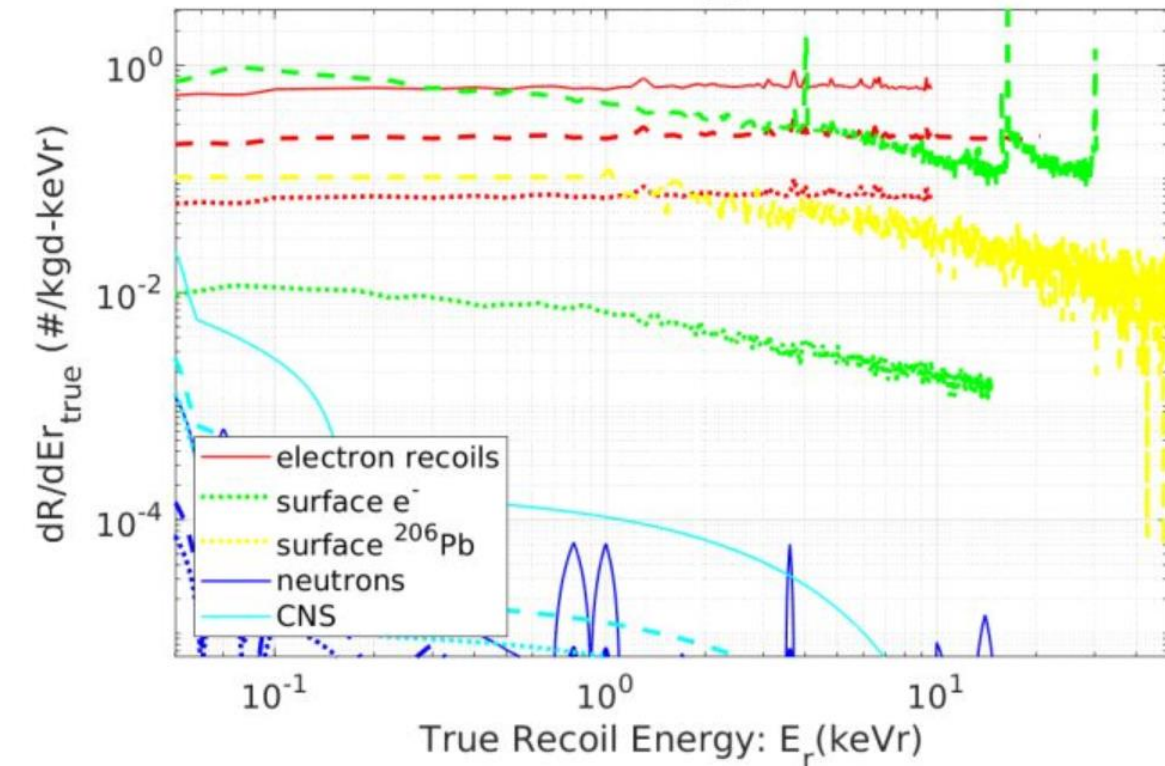
SNOLAB Projections



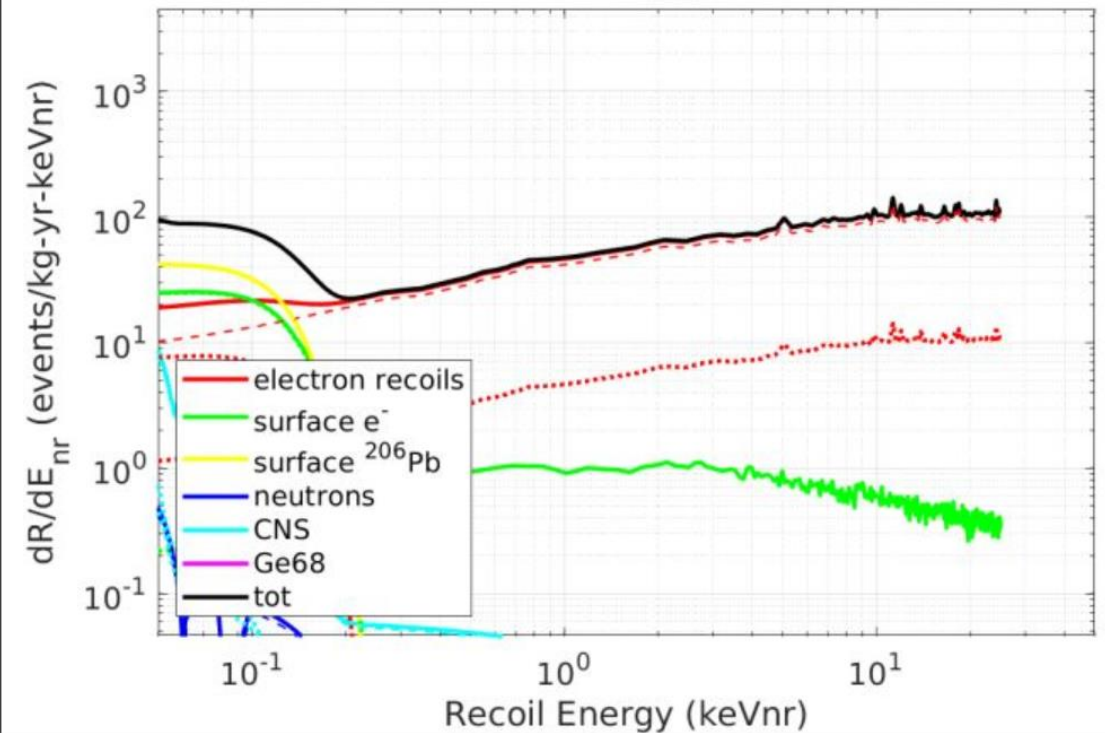
SNOLAB Projections

Difference between PFV background and Raw background?

Si: Raw Backgrounds: HV SNOLAB
Vb=100V $\sigma_{pt}=5\text{eVt}$

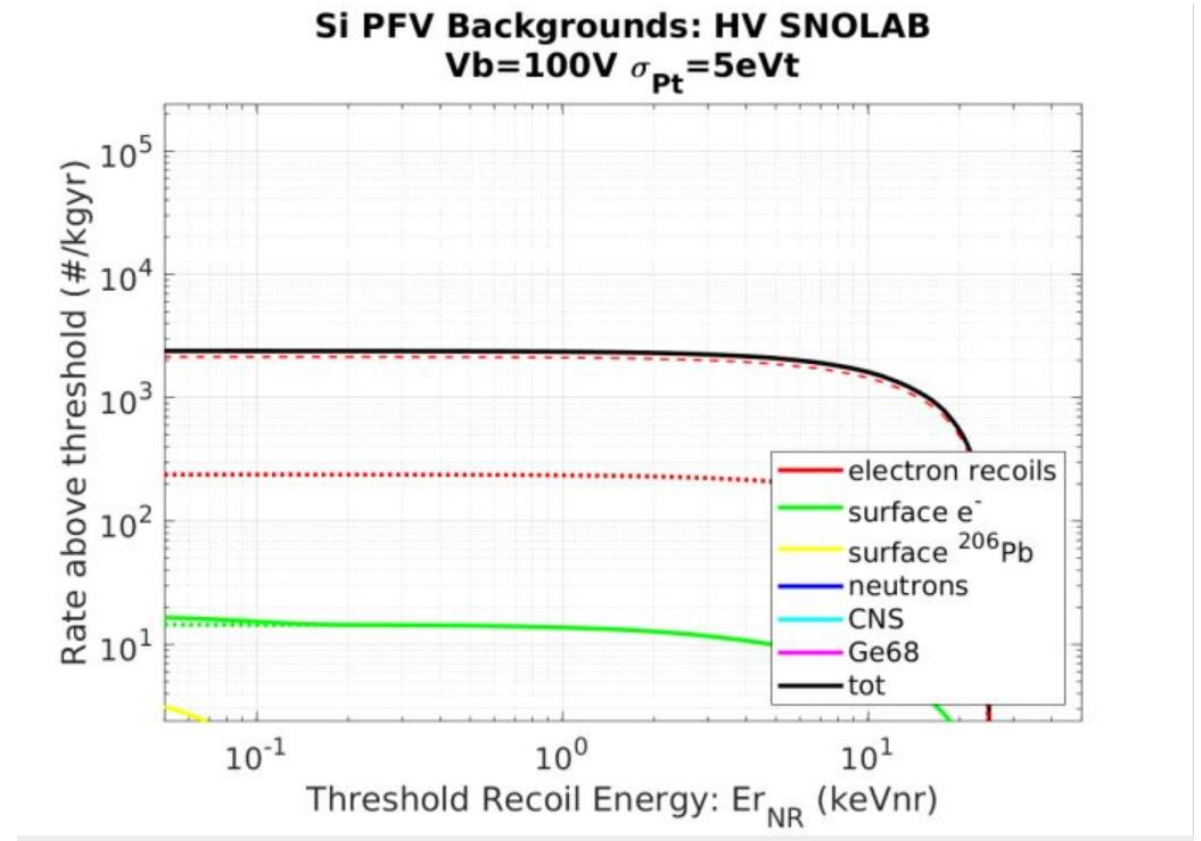
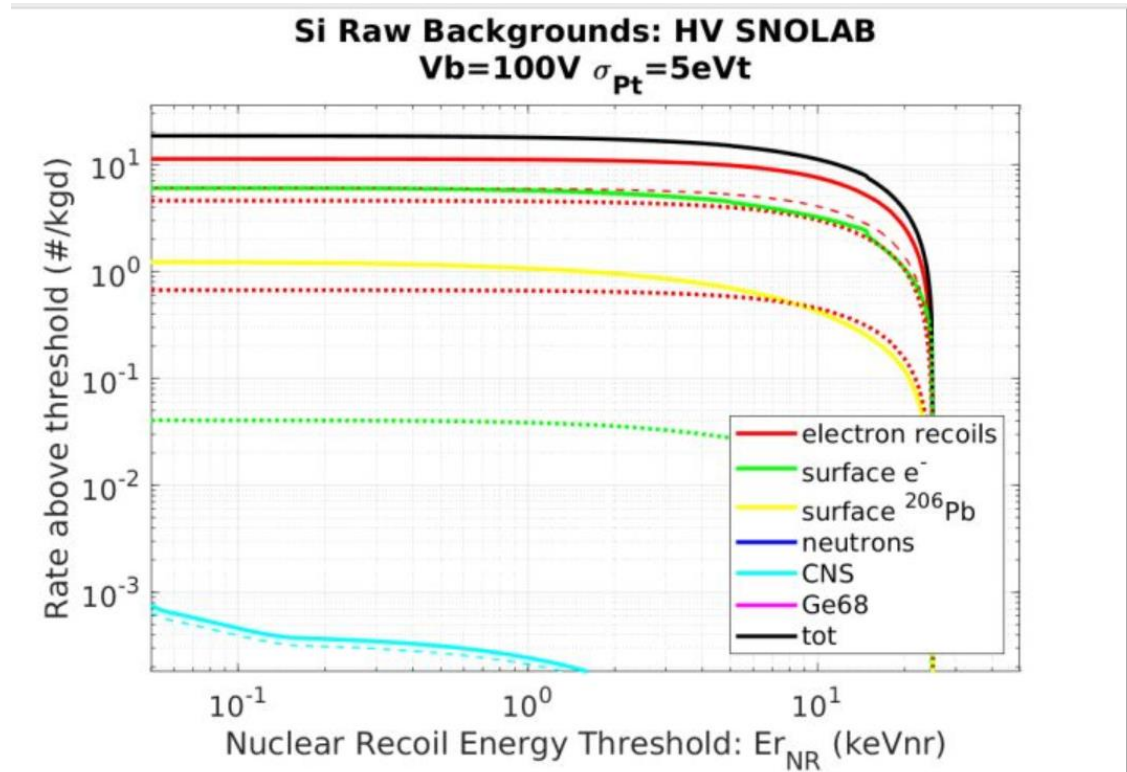


Si PFV Backgrounds: HV SNOLAB
Vb=100V $\sigma_{pt}=5\text{eVt}$



SNOLAB Projections

Rate above threshold vs dR/dE units?



SNOLAB Projections

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 - Background spectrum generated in sensitivity code is in keV_nr...does this need to be changed for doing dark photon limits?
- Does dark photon limit apply for both HV and iZIP detectors?

New Service Task

- New service task I've been talking with Amy about – documenting/determining needs for type 3 deciders
- Type 3 deciders aren't defined at this point, so as a proxy I'm going to use diagnostic plots as a starting point.
- Need to determine what data is used, what algorithms/code in cdmsBats are used, what rqs need to be calculated, etc
- Need to make sure that these meet the timing requirements for snolab operations:

Diagnostic plots will update within 10% of the time to obtain a set of statistically significant data

alerts based on processed calibration data will be available an hour after beginning data taking

alerts for WIMP-search data will take less than 5% of the total time taken to collect a statistically-significant set of data

New Service Task

- Eventually this will lead to templates – template files will have everything cdmsBats will need to generate the type 3 deciders (diagnostic plots?)
- Will work with Ben Smith on this