

darkside

two-phase argon TPC for Dark Matter Direct Detection



Direct dark matter search with the DarkSide liquid Argon detector

Anyssa Navrer-Agasson

Biennale LPNHE 2019 - Montpellier

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My last 6 months... in 5 minutes !

Anyssa Navrer-Agasson

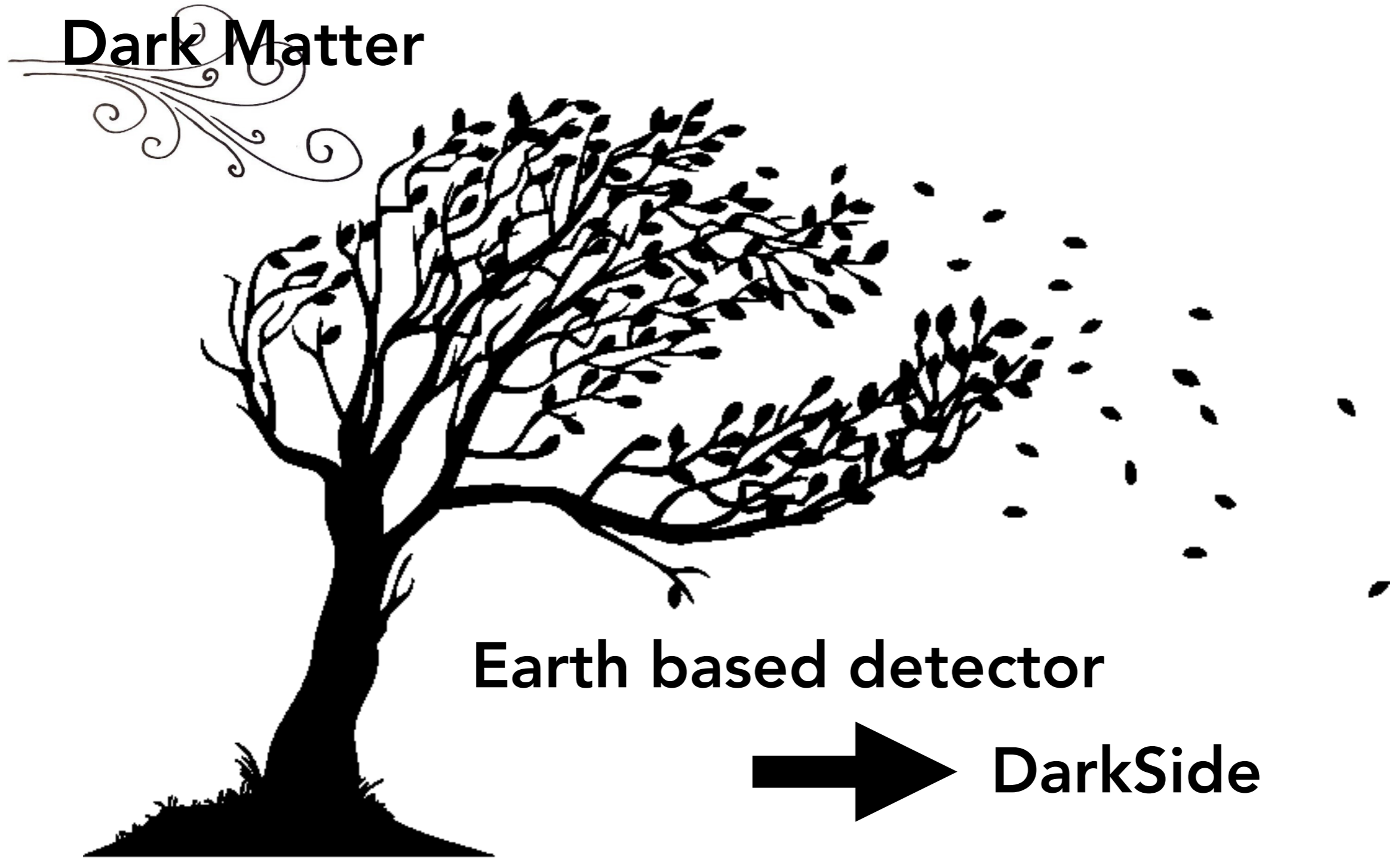
Biennale LPNHE 2019

HOW TO STUDY DARK MATTER ?

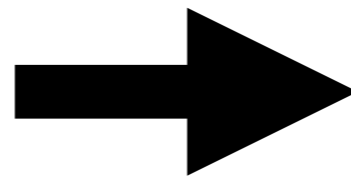


HOW TO STUDY DARK MATTER ?

Dark Matter



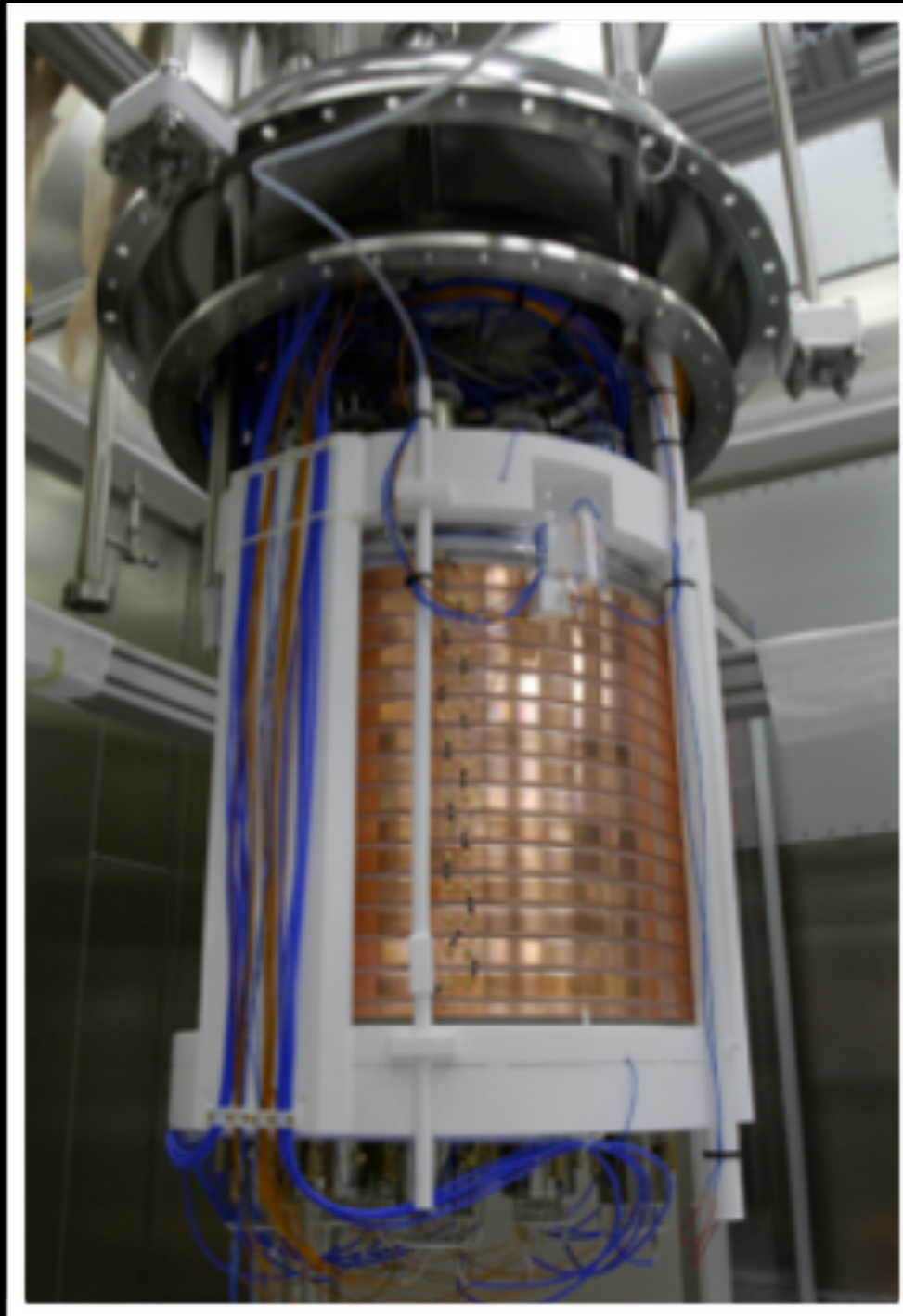
Earth based detector



DarkSide

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two-phase argon TPC for Dark Matter Direct Detection

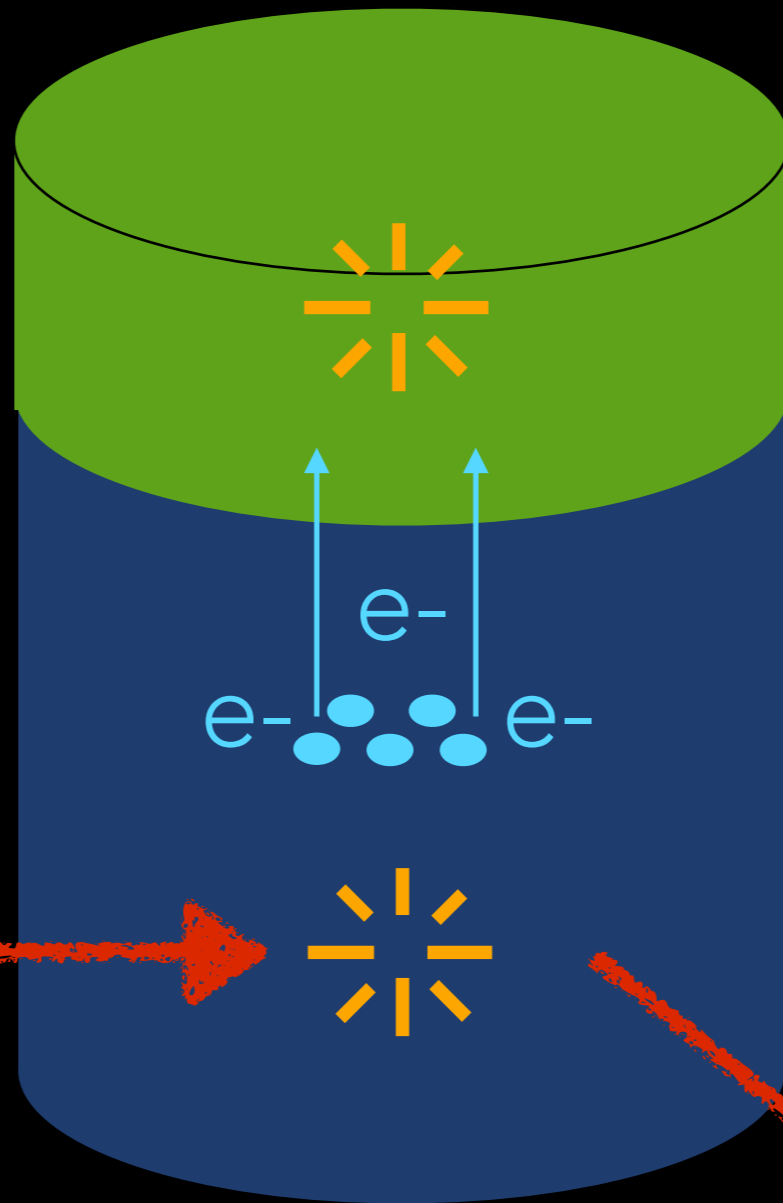


THE DETECTOR

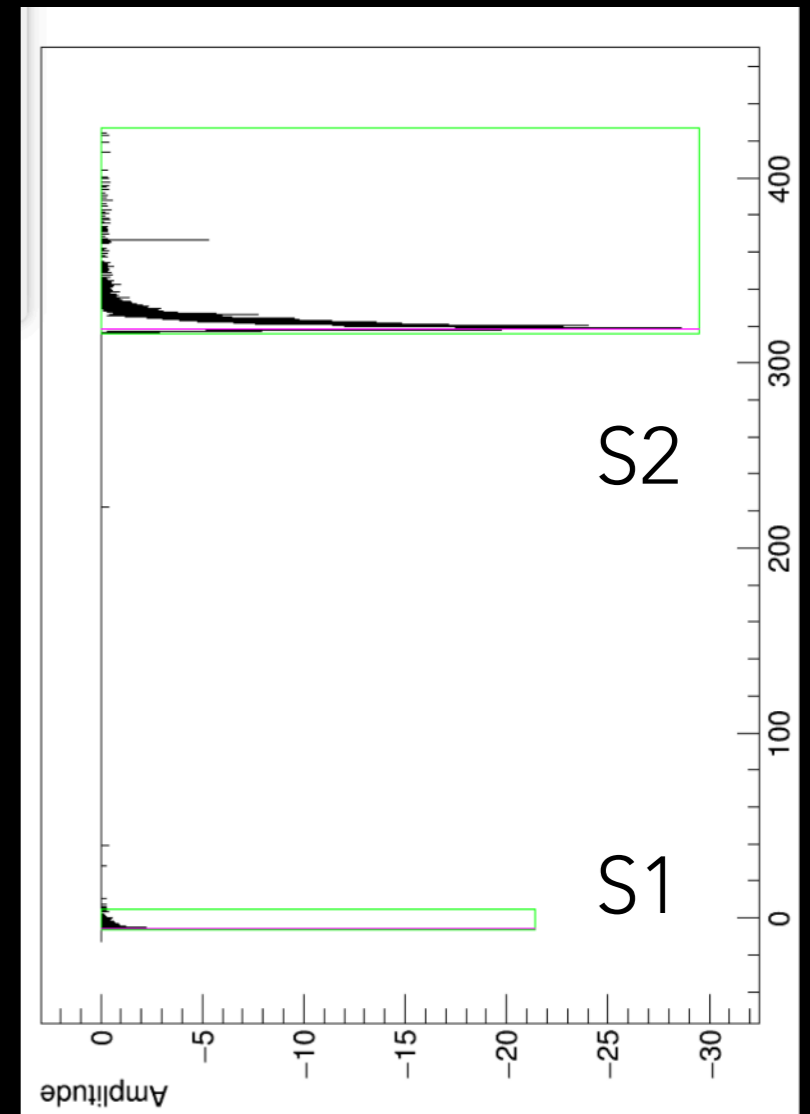
Gaseous Argon

Recorded light

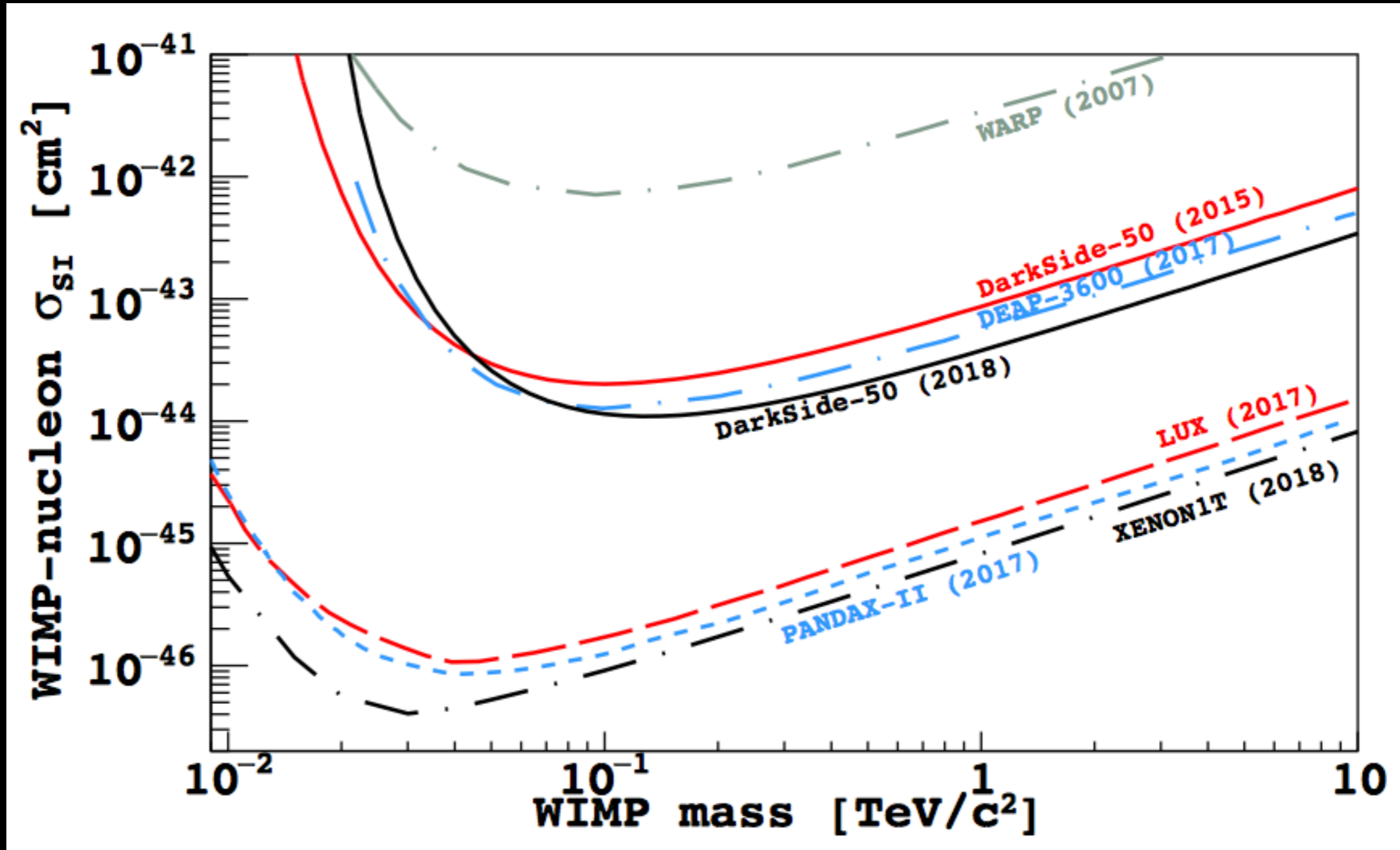
Dark Matter



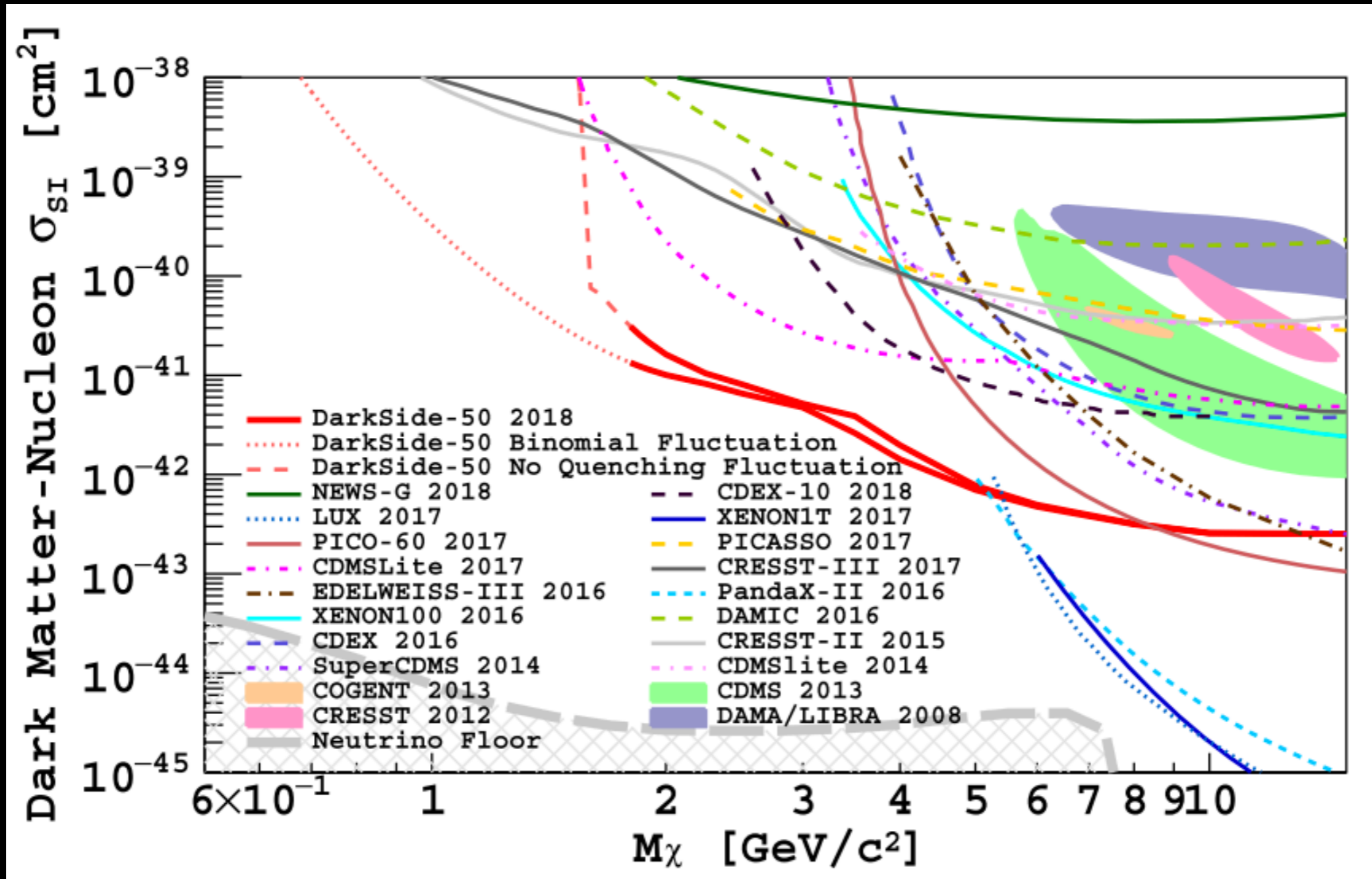
Liquid Argon



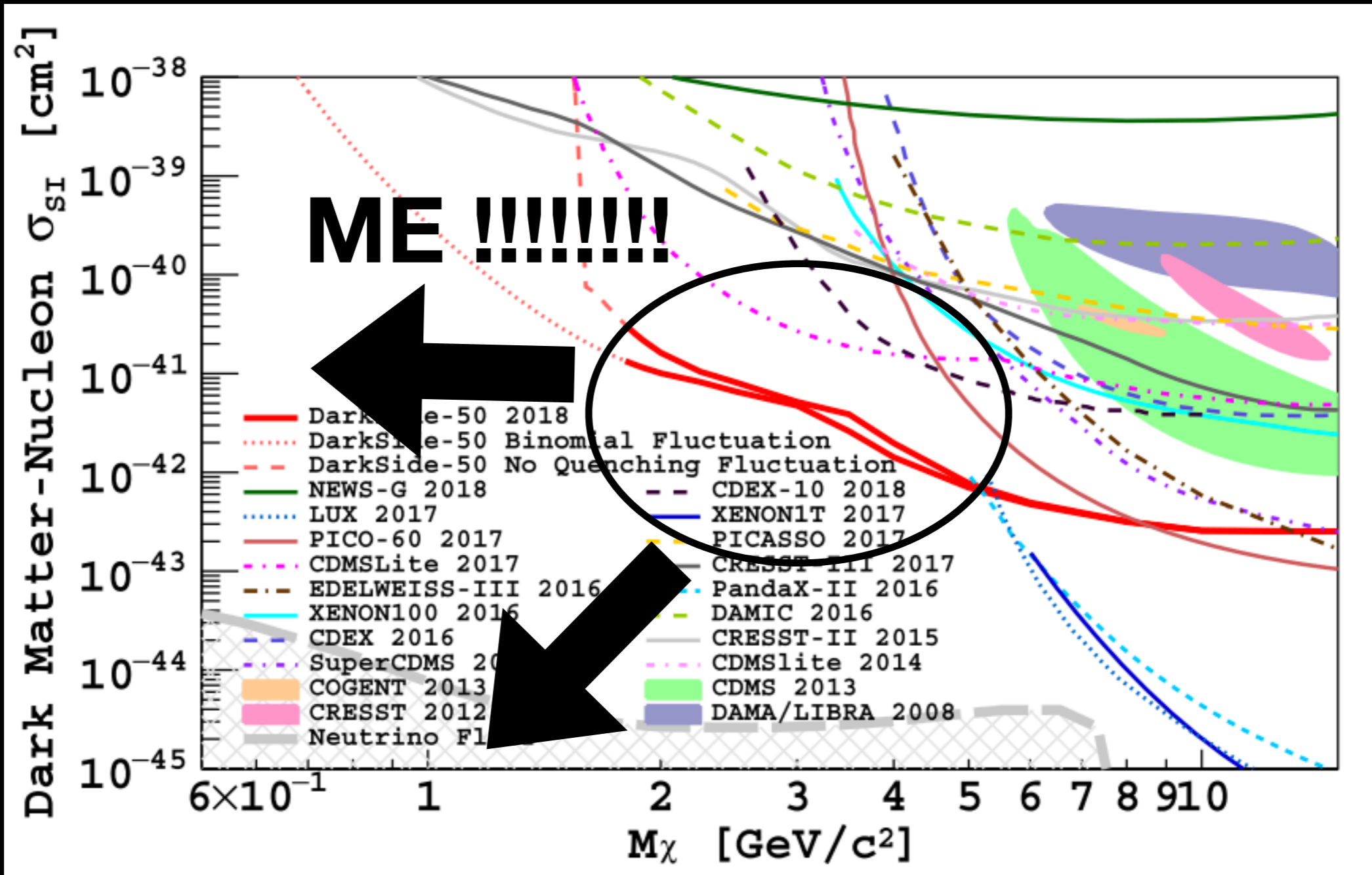
S1 + S2 ANALYSIS : HIGH MASS WIMPS LIMITS



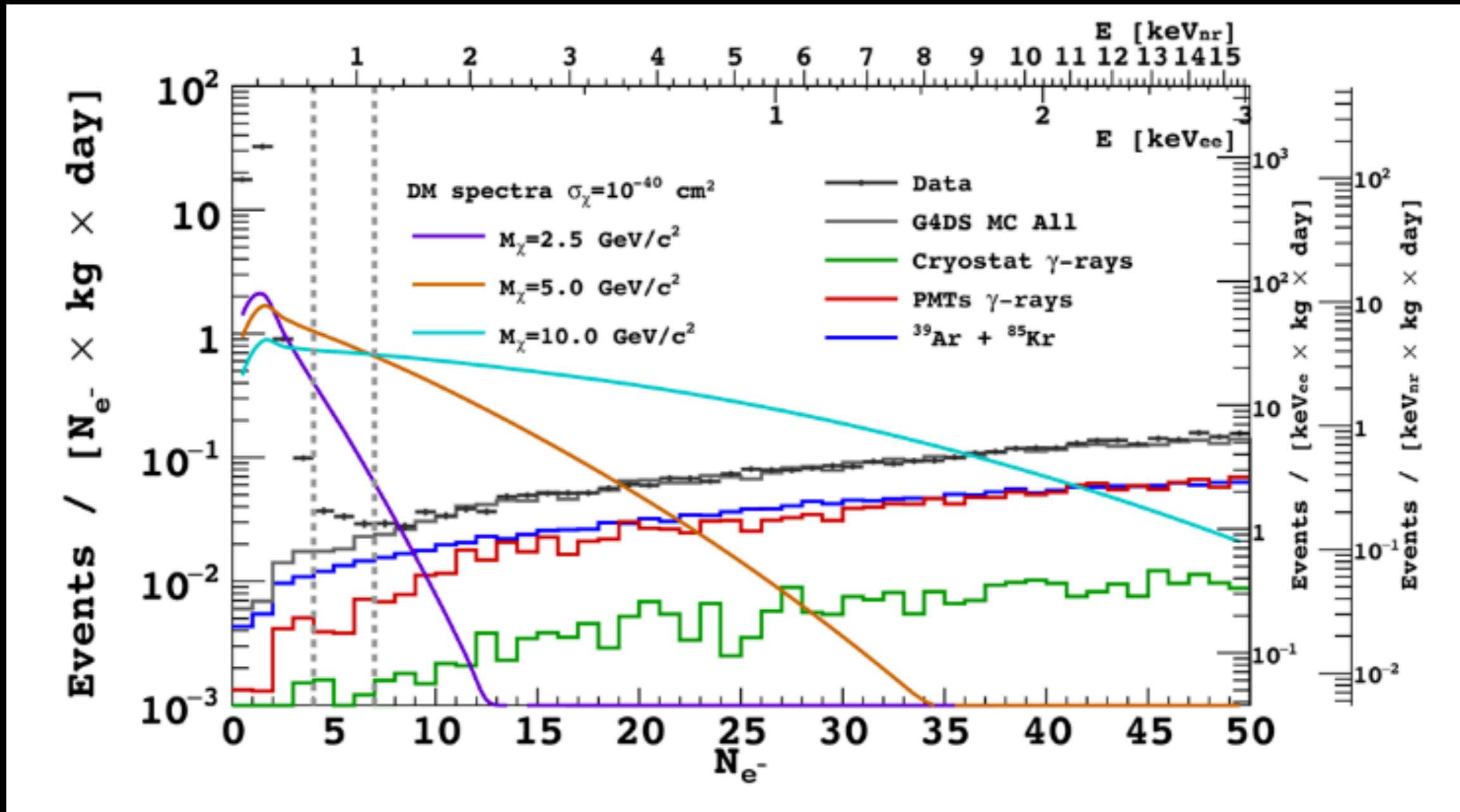
~~BETTER~~ OTHER LIMITS !



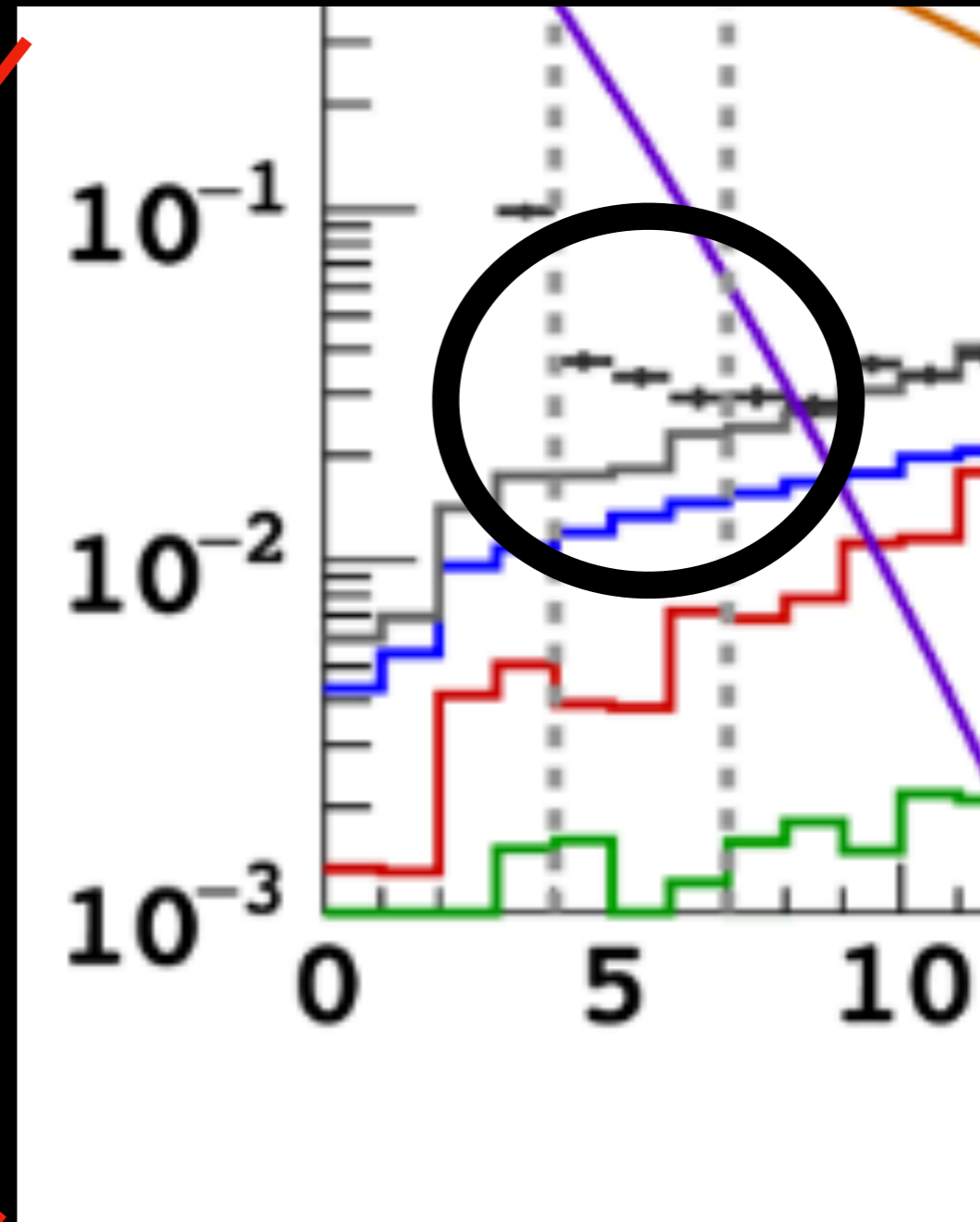
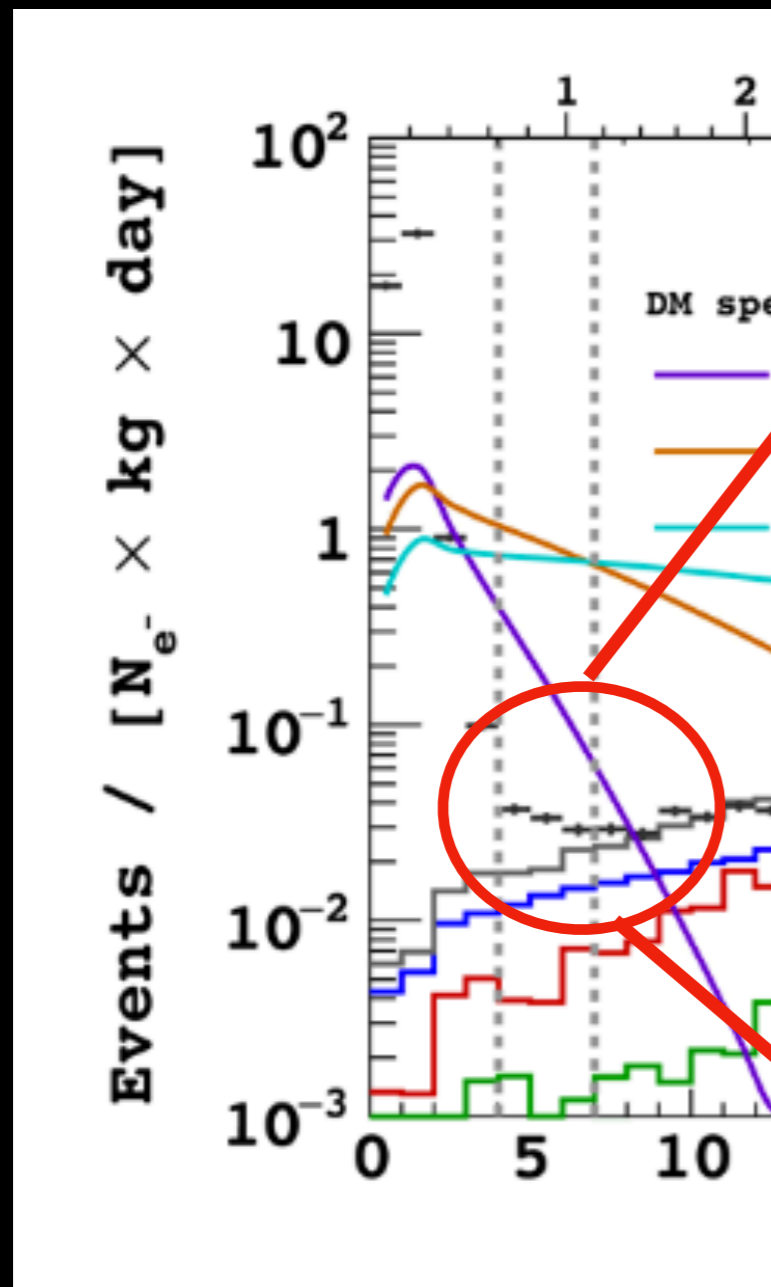
WHAT I DO ! (FINALLY...)



IONIZATION (S2) ONLY ANALYSIS

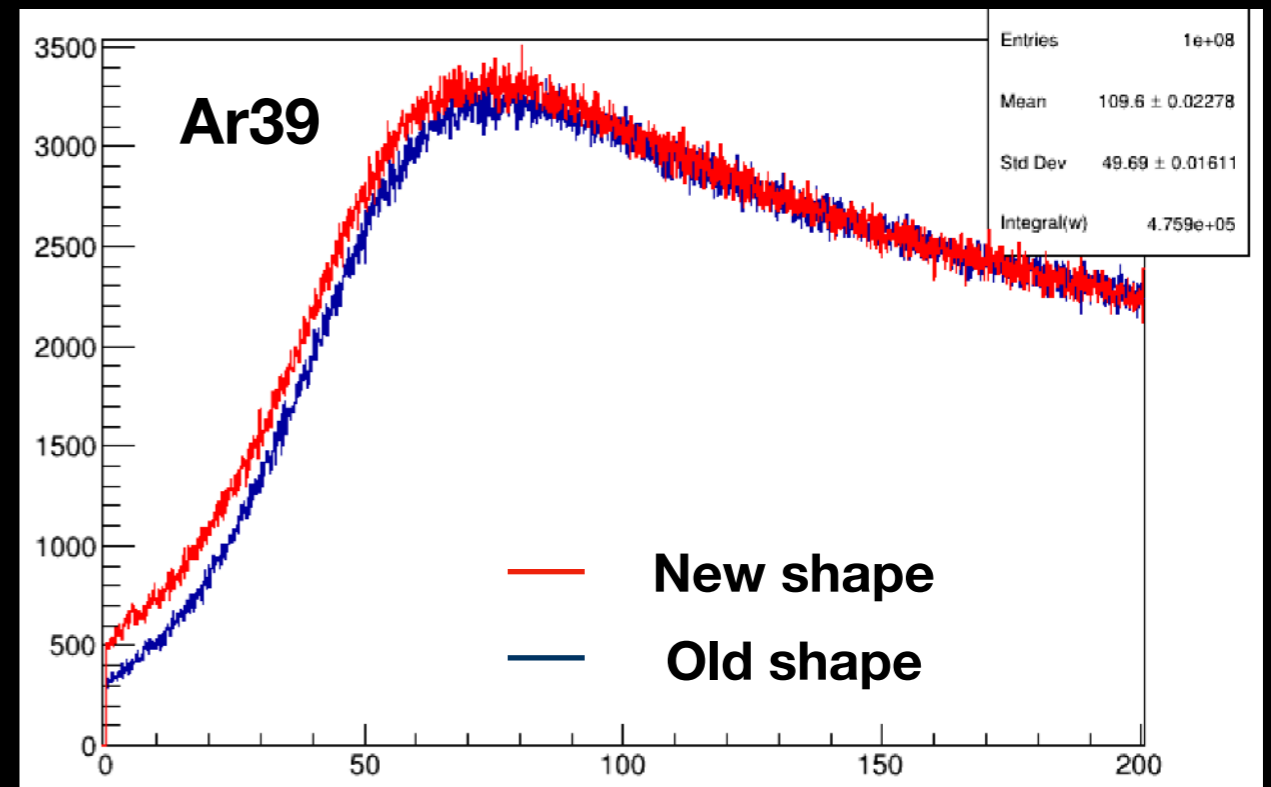


BACKGROUND MODEL

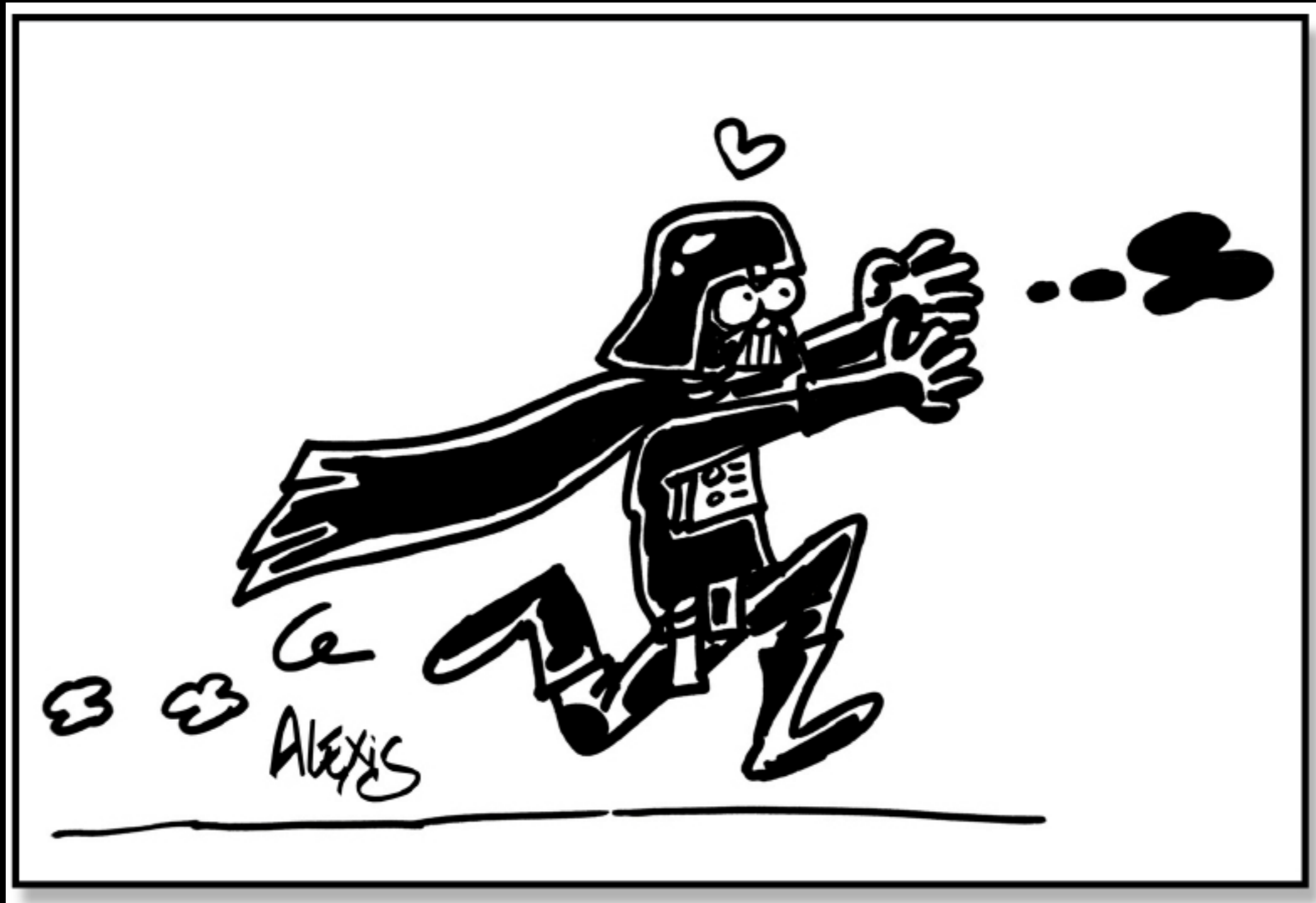


NEW BACKGROUND MODEL

New nuclear effects in
 ^{39}Ar and ^{85}Kr spectra



Stay tuned...



Thank you for your attention !