

Title: Matheus Hostert

Speakers: Matheus Hostert

Collection: Postdoc Welcome 2021

Date: October 29, 2021 - 11:45 AM

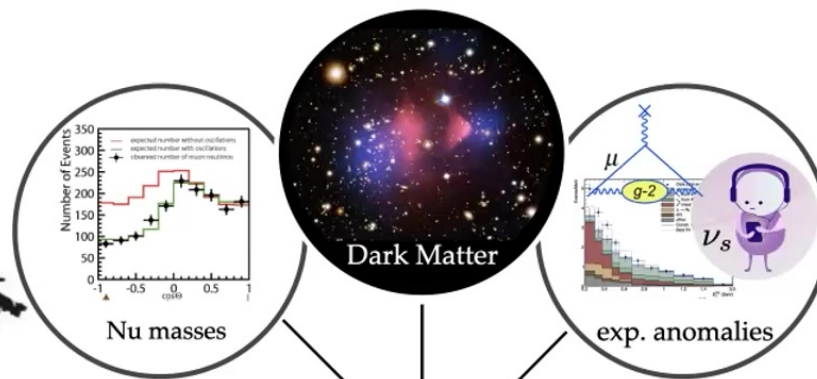
URL: <https://pirsa.org/21100042>



Matheus Hostert

What lies beyond the Standard Model

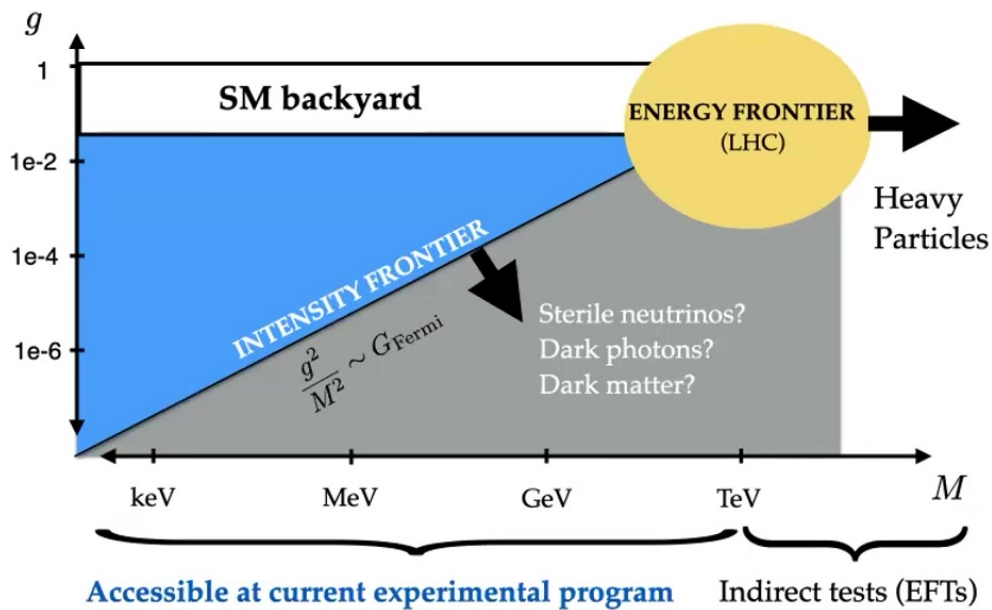
Particle physics



No clear solution.

Theory priors are rather loose.

Pheno approach with a wide net.

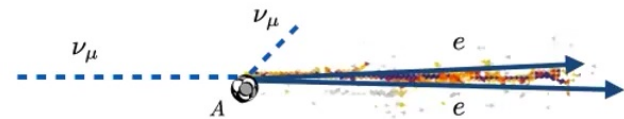


Data-driven approach to search for

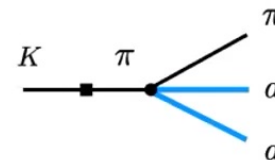
- I) Light dark matter
- II) Neutrino mass models at low scales
- III) Axion(-like) particles
- IV) etc.

Use weakly interacting probes to reach down to uncharted territory.

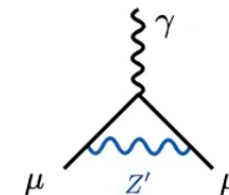
Rare neutrino processes:



Rare kaon decays:



Ultra-precise measurements:

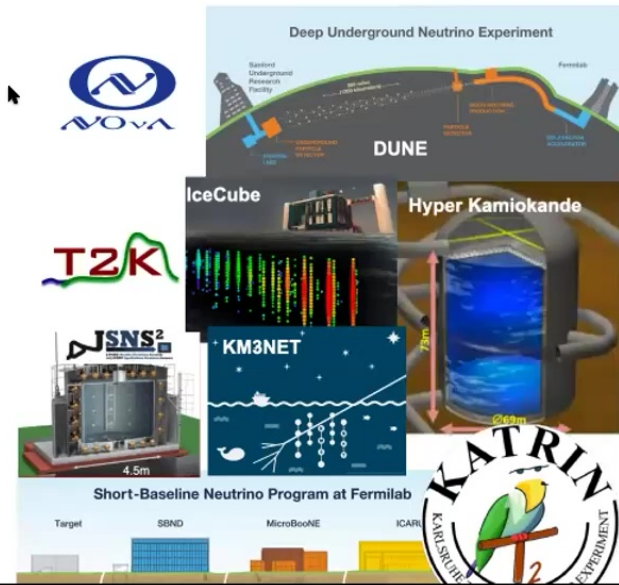




MORE RECENTLY

Searching for dark sectors in existing program:

Oscillations
Telescopes
Majorana neutrino tests (0nuBB decay)
Neutrino mass



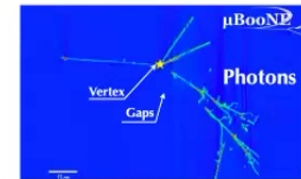
And of course, a particle physicist's favorite word:
anomalies.

Attempt to interpret MiniBooNE and LSND in the
global neutrino data

Liquid Argon
A new "bubble chamber"

This Wednesday (MicroBooNE):

the most significant anomaly in neutrino
physics has (probably) nothing to do with
eV sterile neutrinos, but still unsolved.



For more, check Quanta Magazine's latest article:

