



FIPs in the ALPs Round Table

— Spreafico Marco —

2nd Year PhD student under supervision of M. Battaglieri

About me

I was born in Genova

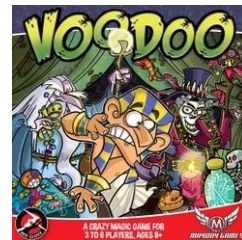
I studied in Genova

I am doing my PhD in Genova



My main interests are:

- videogames
- boardgames
- eating focaccia



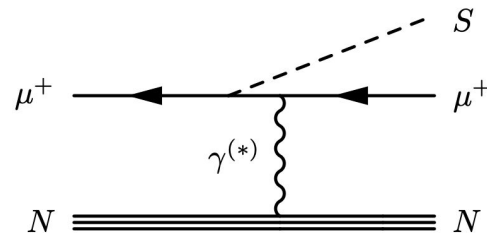
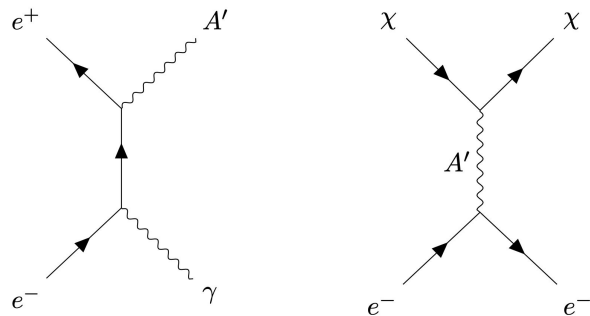
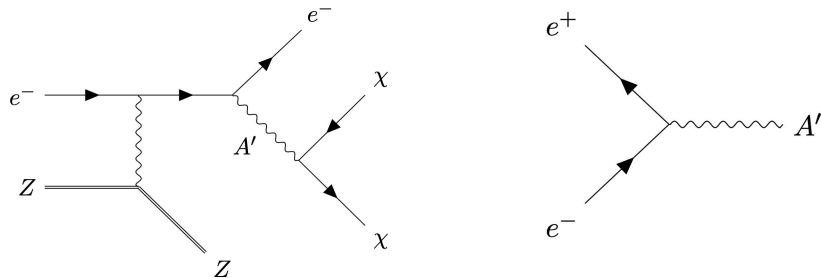
What am I working on

I am working on experimental search of MeV-GeV DM

- Interested in the Dark Photon decaying invisibly
- Studied also other models (Leptophilic LDM)

Mainly focused on beam dump experiments

- detecting DM interaction in detector downstream of beam dump



What am I working on

Currently working on R&D for possible DM search experiments at JLAB

We are trying to exploit CEBAF beam:

- high current
- continuous beam
- intense flux of secondary particles (μ , ν)

We are a small group so I worked on almost everything:

- DM production and interaction simulation
- Detector R&D
- Reach evaluation



An example of what we can do

I joined the Dark Sector by taking part in BDX-MINI experiment

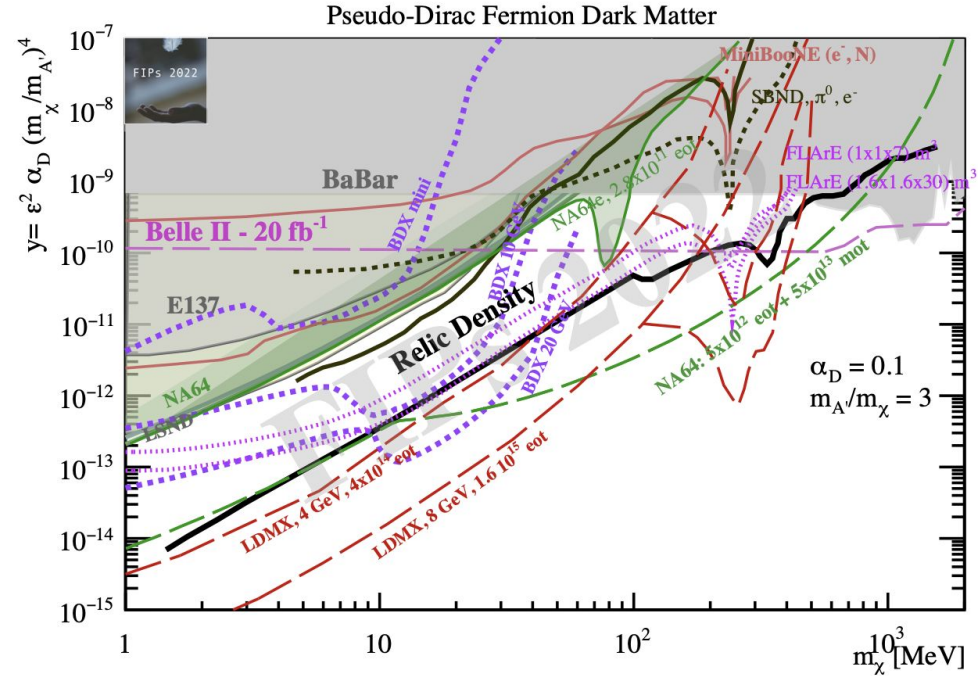
Small beam dump experiment aimed at directly detecting DM produced in JLab Hall-A beam dump

Long story short: we did not detect it but we set an exclusion limit

I worked on the full data analysis: from raw data to an exclusion limit

[Phys.Rev.D 106 \(2022\) 7, 072011](#)

[Eur.Phys.J.C 81 \(2021\) 2, 164](#)



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