

LIP Dark Matter Group

- **Participation in LZ experiment** (funded until June 2024):
 - **Paulo Brás** is **Data Analysis Coordinator** of LUX-ZEPLIN since 2022
 - Leading role in **$0\nu 2\beta$ decay of Xe-136** search in LZ (**P. Brás and A. Lindote**)
 - Leading role in the search of Xe weak decays (**A. Lindote**)
 - Development of key data analysis tools (**F. Neves, P.Brás**)
 - Control system and Underground Performance Monitor (**V. Solovov and F. Neves**)
- **Migdal experiment** (without dedicated funding)
 - Background simulation, DAQ, control system
 - **Alex Lindote** is the **Data and Run Coordinator**
- **G3 dark matter experiment (ZLZD Consortium)** (without dedicated funding)
 - Alex Lindote is co- convener of the $0\nu 2\beta$ decay.
 - Cláudio Silva is co- convener of the calibration group.
- **R&D project** on the optical properties of surfaces with relevance for DM detectors (funded until Feb 2022; project lead by **C. Silva**)

SWOT Analysis

- **Strengths**

- The group has a **long experience** on low background physics experiments, namely those using xenon two-phase scintillation TPCs.
- 3 new PhD students in the group

- **Opportunities**

- **Data analysis in LZ** (exciting times ahead!)
- Participation in **XLZD experiment**

- **Threats**

- **Insufficient funding**
- The **inappropriate funding structure** to large long-term projects
- **Difficulties in retain researchers**: the annual international FCT call for contracting researchers in all areas has a very low rate of success (~10% in Physics in the last Call)

Main challenges:

- To secure funding for the participation in XLZD
- To get FCT signing the XLZD MoU
- To attract PhD students
- To attract Master students