

Muography 2023/2024

1.5 years of FCT exploratory funding with partners from geo-sciences and a Ciência Viva center

Lousal in 2022 / 2023: imaging less clear geological structures
(aiming to compare/combine muon / seismic tomographic surveys)

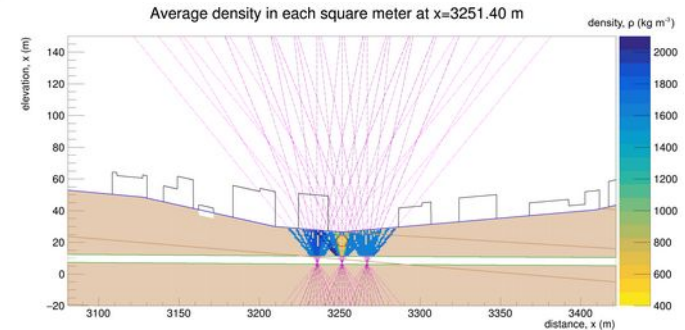
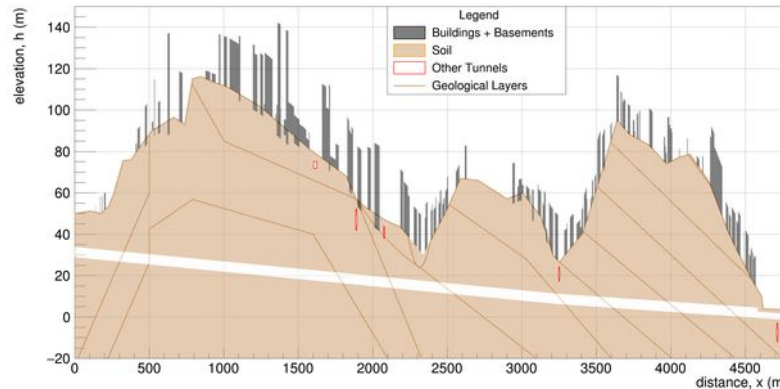


Coimbra in 2021 / 2022: imaging clear structures in a building, first Master Thesis finished 12/2023
exploring possibility of 3D from a single telescope location

We're in contact with other geo-scientists for possible future projects (but not yet started)
We're drafting a protocol with the Lisbon Drainage Tunnel Project (both geology and buildings!)



Longitudinal profile of the drainage tunnel



S/O

Muon tomography growing worldwide; we have original research on 3D reconstruction
M. Duarte master thesis work well received in International workshop on muography

Versatile and well supported technology; support from LIP groups and infrastructures
Already constructing a smaller telescope (sealed RPCs, similar to SND@LHC)

ECO important in itself and in search for new projects (local, national and international)
Improving the exhibit at Lousal and preparing similar displays for next projects

W/T

Can be difficult to secure science / R&D funding for post-exploratory project(s)
Drafting protocols for new projects: next months will be key to secure new funding

All team members work on other projects and personal investment has to be well balanced
We rely on motivated students, including two new masters, but all students without grants



"3D imaging from
underground with
muon tomography"

Isabel Alexandre

"Planning for muon
tomography
campaigns in urban
settings"

Francisco Ferreira

