

PAU PETIT ROSÀS

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EDUCATION

Ph.D in Theoretical Physics , The University of Liverpool	Oct 2023 - Present
MPhys in Theoretical Physics , The University of Manchester Average: First Class	Sep 2019 - Jun 2023
Spanish Baccalaureate , Taller Ginebro High School Average: 97% Top of the class out of 120 students	Sep 2017 - Jun 2019

SKILLS

Python	Pandas, NumPy, SciPy
OOP C++	Multithreading, Optimization, Inheritance
Fortran	High-performance, Parallelization, MPI and OpenMPI

LANGUAGES

English	Fluent
Spanish	Native
Catalan	Native

PROJECTS

Scattering amplitudes calculations for data driven evaluations of the anomalous magnetic moment of the muon - Ongoing Ph.D project with Prof. Thomas Teubner, Prof. Graziano Venanzoni & Dr. William Torres

- Calculations at NNLO of $e^+e^- \rightarrow \mu^+\mu^-\gamma$ and $e^+e^- \rightarrow \pi^+\pi^-\gamma$ amplitudes
- Implementation into the [Phokhara](#) MC generator, and improvements of this tool

Strong2020 Collaboration - Ongoing Ph.D project

- Initiative to compare MC tools for low energy e^+e^- colliders, from [5th Radiative Corrections Workshop](#)

Dark Matter at the center of the Earth - Masters project with Prof. Darren Price

- Computed the capture of Dark Matter by celestial bodies using MC simulations
- Constrained DM parameter space using DUNE projections and assuming neutrino annihilation

QCD contributions to flavour anomalies - Project at LIP with Dr. Gernot Eichemann

- Examined the $B^+ \rightarrow K^+l^+l^-$ decays in non-perturbative QCD to explain flavour anomalies

Measurement of the Z boson cross section - Particle Physics Project in Root

Simulation of rotating neutron stars - Theory Computing Project in Python

Model of ecosystem dynamics - Objected Oriented Programming Project in C++

PRIZES

Tessella Prize Awarded by the University of Manchester for best use of software in a Master's project. Jun 2023

Gold Medal in the Catalan Debate national League Jan 2018 - Feb 2018

WORK HISTORY

Visiting researcher LIP Portugal	July 2022 - October 2022
Physics and Maths Tutor Learners First	Jun 2022 - July 2022
Oratory Teacher to High School students Xarxa Vives	Feb 2019 - Jun 2019
Student Ambassador The University of Manchester	Sep 2021 - Sep 2023
Physics Peer Mentor The University of Manchester	Sep 2021 - Jun 2022