

Physics Laboratory II

2025-26



SAPIENZA
UNIVERSITÀ DI ROMA

Antonio Di Domenico

Reminder

- You have to do **ONE** experiment chosen in the list on the last slide
- It is a **team** work: **3, 4 or 5 people** depending on availability of instrumentation, tutors etc..
- You have to provide at least **four preferences** (with priority)
- To this purpose a web form will be available in the next days after all experiment presentations
- I will sort out the conflicts. Anyhow remember that **preferences constitute only an indication** I'll try to consider them, but in some cases they may not be satisfied.
- **IMPORTANT: please register on e-learning** to receive communications, and access lecture material, slides etc..
- **Only students officially enrolled can attend Phys Lab II**
 - However, if you have **not** yet validated Phys Lab I, you **can** attend Phys Lab II

What to do in Physics Laboratory II

- **One lab experience from mid March to mid June. One written report.**
 - You are supposed to spend **about 100 hours** in the lab.
Afterwards, if needed, you can dedicate more time (not in the lab!) to finalize your data analysis and to write the report.
- **Get confidence with hardware, install it, calibrate it.**
- **Take data and analyze them.** Learn how to make a simulation to compare with.

- **Later, during the semester some lessons on**
 - **Radioactive source safety**
 - report writing guidelines

- You will have **two** (or more) **tutors** (mostly INFN staff researchers).
 - They will explain you how to proceed during the experience.
 - They can help, but they will NOT solve the problems you are supposed to solve!

General safety

- Be careful – every tutor will teach how to behave when you are in the lab.
 - Dangers connected to the instrumentation will be explained
- Never eat or drink in the lab

Exams

- Exams (***verbalizzazione***) when the written report is ready.
- During the semester **oral mid-term report** (beg. of May).
 - A 10' report given by one person of your group.
 - It is meant to check the status and see if you are converging.
 - All the students of all the groups **must attend** it.
- Tutors will monitor the **individual** activity during the semester. At the beginning of May they will inform me about how well each of you is attending the lab.
 - I will send an **individual warning** in case I am notified of **problems**.
 - **If unresolved, this could have an impact on the final mark.**

Exam: written report

- **Written report** at the end of the experience.
 - It is supposed to be a short (30 pages) **scientific** document.
 - Avoid lengthy introduction.
 - **Focus on results** (it is not a logbook of your failures, but the record of your achievements!).
 - **Quality and accuracy of presentation** is important (avoid graphs with missing units, arbitrary binning, almost empty histograms, ...).

Activity in the lab

- **Self-organization** of the lab activity
 - **Phys Lab room** (Marconi, ground floor) : lab is open 9-19 Mon-Fri, define a “loose” weekly schedule for the experiments
 - **Research lab**: agree a schedule with the tutors.
For safety and practical issues, students of each experiment in a reasearch lab are supposed to be all present in the lab at the same time. Define a schedule (e.g. one - or two - preferred day(s) of the week) with your tutors.

Marks

Phys Lab II mark will be based on

(1) the final written report (read by me)

and

(2) the tutor(s) opinions.

A **+1 bonus** will be given to **good mid-term reports (beginning of May)**

We will meet for the *verbalizzazione*

(a short 10' report on the final results will be given to me).

I will use a relatively large range of marks to evaluate Phys Lab II

Life in the lab

- The lab is a working place.
- Our lab is organized to exchange experiences:
be curious, ask questions to other students/researcher you meet.
- **NO FOOD, NO DRINK in the lab!**
- Please keep your space **tidy and clean**
 - No messy cables...!!!
- Some of the experiences are *not* in the **lab room** (ex: VIRGO's lab, cryo lab, SBAI, LNF, etc.)

Location

- Some experiments are located in the **lab room** in the basement of ed. Marconi,
- some in the **research labs** of our department or INFN – Roma (G23, cyogenic detectors, Segrè, APE)
- One at SBAI

- Some experiences are at the Laboratori Nazionali di Frascati
 - Off-site but convenient train connection from Termini to Tor Vergata.

Safety at the labs

- All of you will have to attend the (on-line) general safety course
 - Some of you already did since they worked in the library (?): no need to redo it
- Students working in a lab with **radioactive sources** will get trained by Sapienza Esperto Qualificato (this training lesson is **mandatory**)
=> Starting **March 20th - 8:00-10:00 Aula Rasetti**
- Each lab has its own safety rules (cryo temperature, lasers, HV, etc.). You will get **trained by the tutors** on this.
 - You will have to sign a **paper declaring** you get a proper safety training.
- To access LNF premises we need some additional paper-work

Behave in the Phys Lab lab room !

- Marconi underground floor
 - entrance close to Galilei and Milton's statue
- You will get a **personal electronic ID badge** for the access active from March to June – reserve June to finalize the report
 - The access time and the ID will be recorded.
- You need to **return** this badge as soon as you are taking the exam or at the end of June at the latest (you will not get the *verbalizzazione* otherwise!)

- **Radioactive** sources will be available during the day (special overnight data-taking could be arranged)

Presentation of the experiments: agenda

day	time	Tutor/presenter		Experiment
03-Mar	10:15	Antonio Di Domenico		Introduction
03-Mar	10:30	Eleonora Diociaiuti	1	Carioca
03-Mar	10:37	Angelo Cruciani, Claudio Gatti, Marco Vignati	2	RELIC
03-Mar	10:44	Andrea Mostacci	3	Ncav 2
03-Mar	10:51	Massimo Corradi, Stefano Rosati	4	MDT
03-Mar	11:10	Luca Naticchioni	5	V3D_Joint
03-Mar	11:17	Luca Naticchioni, Paola Puppo	6	Virgo_PI
03-Mar	11:24	Cristiano Palomba	7	Virgo_DA 1
03-Mar	11:31	Cristiano Palomba	8	Virgo_DA 2
03-Mar	11:38	Valerio Ippolito	9	Slyt
03-Mar	11:45	Francesco Pandolfi, Emanuele Di Marco	10	Sfera
10-Mar	10:15	Giacomo Traini, Gaia Franciosini	11	Brooklyn
10-Mar	10:22	Mario Antonelli	12	Micromega
10-Mar	10:29	Michela Marafini, Giacomo Traini	13	Paprica
10-Mar	10:36	Filippo Errico, Chiara Rovelli	14	Timing
10-Mar	10:43	Matteo Bauce	15	Mimega
10-Mar	10:50	Valerio Bocci	16	Ardusipm
10-Mar	11:10	Claudia Tomei, Davide Pinci	17	VitaMu
10-Mar	11:17	Francesco Renga	18	Lasgas
10-Mar	11:24	Fabio Cappella	19	Dream
10-Mar	11:31	Giorgio Dho	20	Cygn
10-Mar	11:38	Alessandro Lonardo	21	FPGA
10-Mar	11:45	Antonio Di Domenico, Paolo gauzzi	22	ECAL/SAND

Contacts

antonio.didomenico@uniroma1.it
antonio.didomenico@roma1.infn.it

Office 129A – first floor – Marconi Building

Tel. +39 0649914457