



Advanced Training School on Operation of Accelerators

CERN, 3-7 June 2024

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I. Efthymiopoulos
ATSOA24 Meeting, 03.06.2024

Welcome!

- Event web : <https://indico.cern.ch/e/ATSOA-CERN24>
- Thank you for the interest to the school
- We hope the school will be interesting for you, and what you will learn, as well as the overall experience, will be profitable for your future career



Advanced Training School on Operation of Accelerators
Courses - Hands-on – Simulation
3 Facilities
CLEAR, ISOLDE, PSB
June 3rd -7th, 2024

Content
Accelerator Complex
Control system
Beam characterization
Phasing SC Cavities
Mass Scans
Steering Algorithms
Other advances
Topics

How to apply
EURO-LABS Webpage:
<https://web.infn.it/EURO-LABS/>
Deadline for applications
January 31st

Contact & other info: mj.borge@csic.es

The CERN accelerator complex
Complexe des accélérateurs du CERN

PS Booster
CLEAR
ISOLDE
CERN Control Room

- **Advanced**

- no real prerequisite, basic knowledge of physics, electromagnetism, mathematics and programming – **ready to learn and explore**

- **Training**

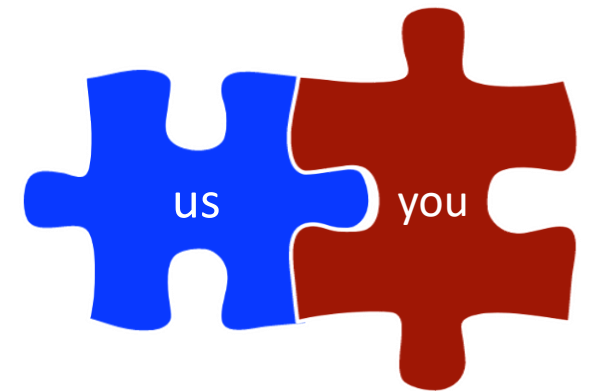
- content – subjects/topics - hands-on on – **learn principles and apply to real systems**

- **School**

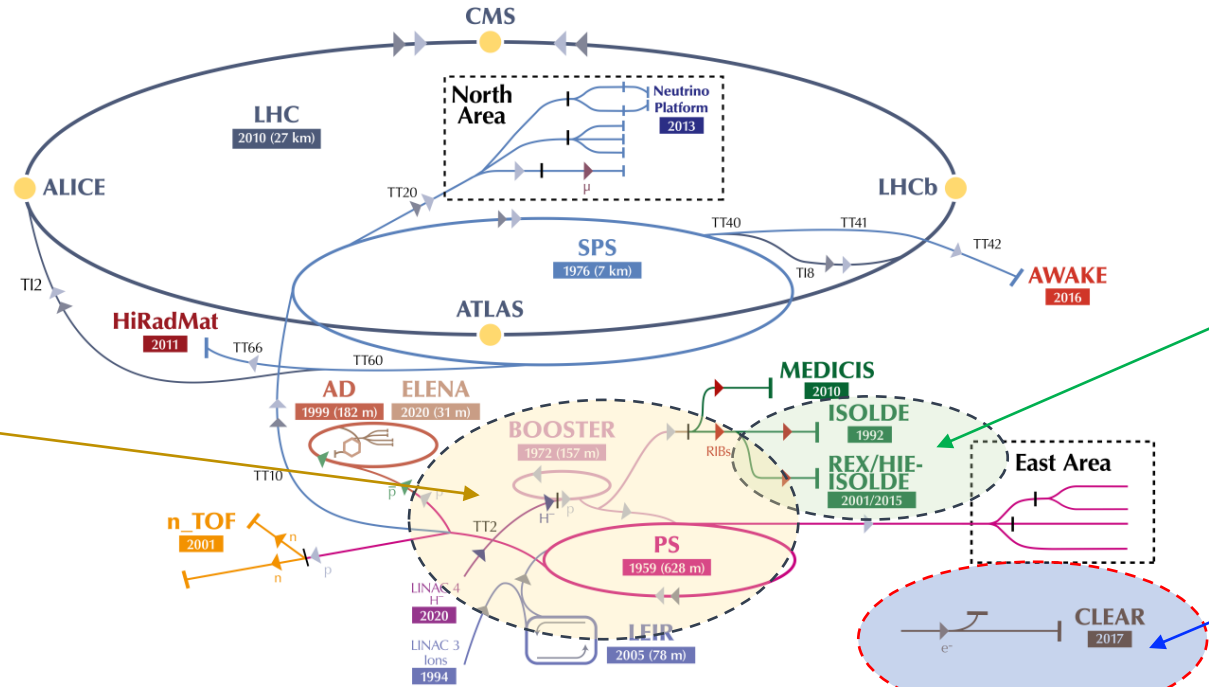
- students/trainees – lecturers/instructors - **exercises**

- **Operation of Accelerators**

- Beam production/manipulation – systems in accelerators – **practice with real beams**



The CERN accelerator complex Complexe des accélérateurs du CERN



CPS Complex
PSB + PS
F. Asvesta
T. Prebibaj

ISOLDE
A. Rodriguez

CLEAR
R. Corsini

**Accelerator Design
& Simulations**
T. Prebibaj

▶ H^- (hydrogen anions) ▶ p (protons) ▶ ions ▶ RIBs (Radioactive Ion Beams) ▶ n (neutrons) ▶ \bar{p} (antiprotons) ▶ e^- (electrons) ▶ μ (muons)

LHC - Large Hadron Collider // SPS - Super Proton Synchrotron // PS - Proton Synchrotron // AD - Antiproton Decelerator // CLEAR - CERN Linear Electron Accelerator for Research // AWAKE - Advanced WAKEfield Experiment // ISOLDE - Isotope Separator OnLine // REX/HIE-ISOLDE - Radioactive Experiment/High Intensity and Energy ISOLDE // MEDICIS // LEIR - Low Energy Ion Ring // LINAC - LINear ACcelerator // n_TOF - Neutrons Time Of Flight // HiRadMat - High-Radiation to Materials // Neutrino Platform

The Program

	Group A	Group B	Group C
Hans-on	ISOLDE - PSB	PSB - CLEAR	CLEAR - ISOLDE
Visit	CLEAR	ISOLDE	PSB

	Monday 03/06	Tuesday 04/06	Wednesday 05/06	Thursday 06/06	Friday 07/06
AM 09:00 – 12:00	Lectures All	hands-on ISOLDE : Group A PSB: Group B CLEAR: Group C	Lectures Exercises All	hands-on ISOLDE : Group C PSB: Group A CLEAR: Group B	hands-on ISOLDE : Group C PSB: Group A CLEAR: Group B
Lunch 12:00 – 14:00					
PM 14:00 – 17:30	hands-on ISOLDE : Group A PSB: Group B CLEAR: Group C	hands-on ISOLDE : Group A PSB: Group B CLEAR: Group C	visit ISOLDE : Group B PSB: Group C CLEAR: Group A	hands-on ISOLDE : Group C PSB: Group A CLEAR: Group B	Closing All

	Name	Email Address	Affiliation
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	Jesús Sánchez Prieto	jesus.sanchez.prieto@cern.ch	Consejo Superior de Investigaciones Científicas (CSIC)

- **Friday closing session**

- Each group prepares a short presentation (oral and/or slides) on things they learned, what they will take home

AND

- questions or issues they would like to further discuss

- Dinner
 - Not defined yet, will be a restaurant downtown Geneva!