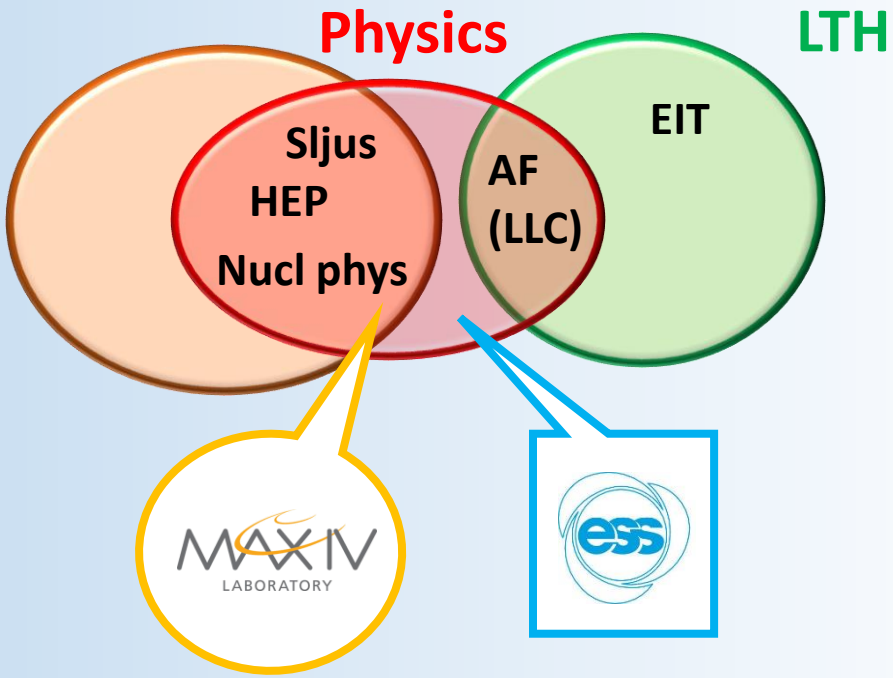
Accelerator Focus @ Physics



5 March 2020

MAX IV Laboratory

https://indico.maxiv.lu.se/event/1287/

Accelerator Focus @ Physics

Program 9.00-12.00

9.00 Welcome, intro, idea, last meeting (Sverker)

9.15 (Kristina Eriksson Stenström)

9.30 Anders Karlsson tbc

9.45 Caterina Doglioni

10.00 *Coffee*

10.15 (extra slot)

10.30 Courses and teaching.

(Sverker, Caterina, Kristina, Anders, Francesca,…)

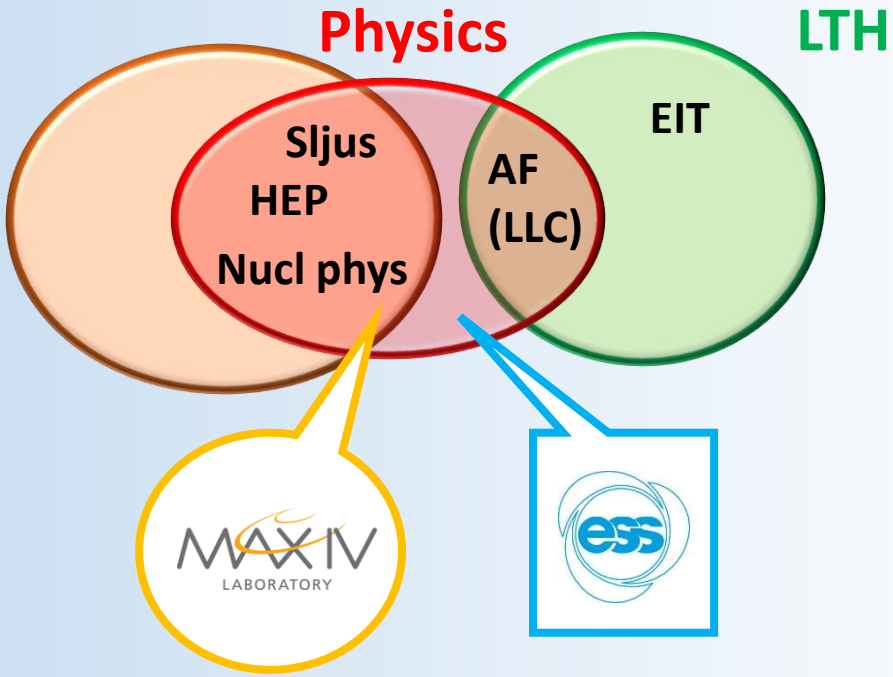
11.15 Discussions

- Strategies
- Conferences and summer schools
- Actions
- Lunch seminars, work fairs
- Seminars
- A common platform

11.50 Next steps

12.00 end

Accelerator Focus @ Physics



Development of Accelerator Physics

Aim

- Join the forces at the Department of Physics
- Broaden perspectives and collaborations in research, PhD environment and education.

Why now, why at MAX IV?

Academic part of MAX IV Accelerator physics from 1/1-18 part of the Physics Department (SLJUS).

(prev. It's own institution: "MAX Nfak")

Accelerator Focus @ Physics

- Look inwards: Collaboration, courses …
- Look sideways: LU, LTH, MAX IV, ESS, LLC …
- Look outwards: DESY, CERN, LaserLab …

EIT@LTH

LCAD (Anders Johansson)

???

Who is who?

Minutes from the Accelerator focus for Physics

30 September 2019

- Come back to teaching when Caterina and Peter från HEP can join.
- We should collect names and contacts for all PhD students among us.
- A homepage for the initiative should be put up at the Department of Physics.
- Anders Karlsson and Anders J Johansson from EIT should be invited.
- Graduate school. Compare the ERASMUS project MAXLAS 10 y ago run by Anne L'Huillier.
- PhD courses in common in areas such as Diagnostics.
- Set-up an Indico page for the presentations from this meeting.
- Seminar series on Accelerators (compare MAX ESS seminars)
- Sverker should call for a new meeting before end of this year

Courses

AF

- FYSC11 Atom o Molekylfysik (MAX IV visit and lecture)

Nuclear

- FAFF10 Atom o Kärnfysik (MAX IV visit and lecture)

HEP

- FYSC14/EXTN85 Partikelfysik, kosmologi och acceleratorer (2-3 lectures?)
- FYST17 Modern Experimental Particle Physics (4 lectures)

SLJUS/MAX IV

- MAXM07 Introduction to Accelerators and FEL
- MAXC11/EXTF90 Production of photons and neutrons for science (50% acc + 50 %BL/appl)
- MAXM05/EXTN95 Accelerators and FEL
- (Master program Synchrotron Based Science – sleeping)

LTH/EIT

- Electrodynamics

Teaching initiatives

- Summer school in Accelerator technology, NPAP 2015-17(EIT, ESS, MAXIV/Physics) (Anders Karlsson)
- MOOCs (Intro to part acc, Fundamentals of part acc tech, Medical appl of part acc) on Coursera
- THALIS graduate school (Caterina Doglioni, Mathieu Gisselbrecht)
- COMPUTE

SLJUS/MAX IV

- **MAXM07 Introduction to Accelerators and FEL**
  Types of accelerators, basic design, e- oriented, basic beam dynamics, diagnostics, simulation duty, visits (MAX, cyclotron, oncology), Synch Rad, undulators, FEL

- **MAXC11/EXTF90 Production of photons and neutrons for science** (50% acc + 50 %BL&appl, ESS lecturers)
  Types of accelerators, basic design, basic beam dynamics, e- and p, Synch Rad, beamlines, exp using SR, exp using n

- **MAXM05/EXTN95 Accelerators and FEL**
  e-, beam dynamics, modeling, instabilities, magnets, lab on MAX IV acc, FEL+theory, simulations FEL/Acc/SR (Simplex, Accelerator Toolbox, Spectra)
  https://drive.google.com/open?id=1RGJhkImcjteigwtoEWaCZCZuha5ClEsQ

11.15 Discussions

Strategies towards…

Collect info.

Collaboration/contacts/engagement/views/…

- MAX IV, LLC
- ESS, SVS
- CERN, DESY, SR&FEL labs, …
- Other universities
- EU networks (ELI, EUCALL, LEAPS, Laserlab Europe, CALIPSO+, EUPRAXIA, CompactLight, …)
- Conferences and summer schools

Actions?

- Lunch seminars, work fairs (-> students)
- Graduate School (ERASMUS, MAXLAS)
- PhD course (Diagnostics?)

- Joining forces at the department of physics
- Broaden perspectives and collaboration in research
- PhD environment and education
- Seminars
- A common platform

- PhD student list
- Review of staff

- Name
- Position
- Research topics
- Colabboration, quesitons

LEAPS STRATEGY 2030

Proposal for a new research and innovation consortium in Horizon Europe and beyond

LEAPS League of European Accelerator-based Photon Sources

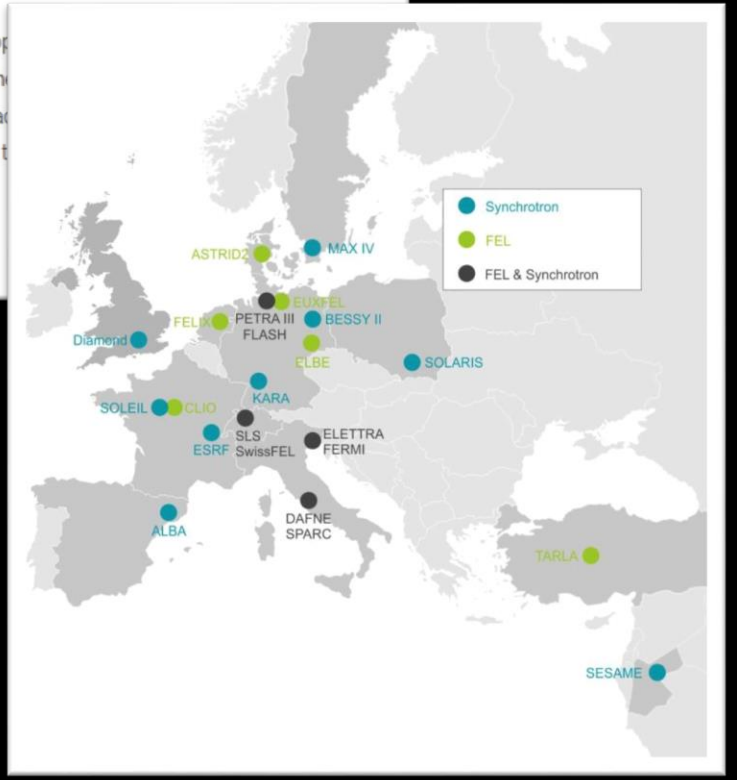
CALIPSOplus

Convenient Access to Light Sources Open to Innovation, Science and to the World.

HOME NEWS CALIPSOPLUS IN DETAIL NETWORKING TRANS-NATIONAL ACCESS JOINT RESEARCH INTERNAL CONTACT

The aim of the CALIPSOplus project is to remove barriers for access to world-class accelerator-based light sources in Europ
end more than 82.500 hours of trans-national access are provided to these research infrastructures and specific programm
how to successfully use synchrotrons and FELs. Dissemination activities targeting industry are complemented by tailor-ma
for this user group. In parallel the consortium is collaborating on constantly developing technology to keep the facilities at t

Read more...

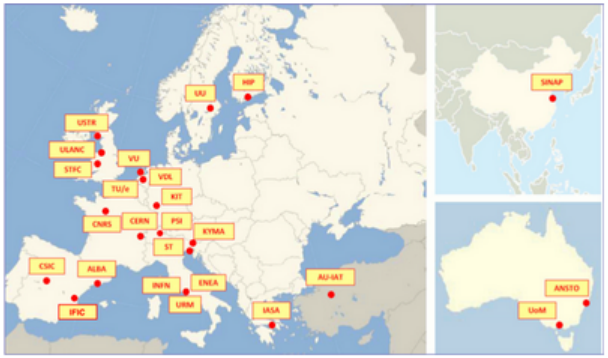


Funded by the European Union

Compact

Home | Collaboration | Objectives | Concepts & Approach | News & Events | Publications | Workspaces | Contact

Welcome to the CompactLight project website!



During the past decades Synchrotron Radiation facilities have seen an impetuous growth as a fundamental tool for the study of materials in a wide spectrum of sciences, technologies, and applications. The latest generation of light sources, the Free Electron Lasers, capable of delivering high-intensity photon beams of unprecedented brilliance and quality, provide a substantially novel way to probe matter and have very high, largely unexplored, potential for science and innovation. Currently, the FELs operating in EU are five: FERMI, FLASH and FLASH II are operating in the soft X-ray range, SwissFEL and EuroXFEL are hard X-ray FELs that started operation recently. While most of the worldwide existing FELs use conventional normal conducting 3 GHz S-band linacs, others use newer designs based on 6 GHz C-band technology, increasing the accelerating gradient with an overall reduction of the linac length and cost.

With CompactLight we intend to design a hard X-ray FEL facility beyond today's state of the art, using the latest concepts for bright electron photo injectors, very high-gradient X-band structures at 12 GHz, and innovative

CompactLight | News

- Second XLS Annual Meeting, Athens, Greece, 21-24 January 2020
- WP Leaders Face-to-Face Meeting, Geneva, Switzerland, 03-04 December 2019
- WP7 & WP1 Face-to-Face Meeting, Amsterdam, Netherlands, 14-15 October 2019
- Improving access to FEL facilities through the CompactLight project Accelerating News, Issue 29, July 2019
- Free Electron Laser Platinum, July 2019, p.94

EuPRAXIA

NOVEL FUNDAMENTAL RESEARCH

COMPACT EUROPEAN PLASMA ACCELERATOR WITH SUPERIOR BEAM QUALITY

eli

delivery consortium

EUCALL

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At final EUCALL meeting in Brussels, future plans are established

Letter of Intent signed to form the EUCALL Forum after the end of project