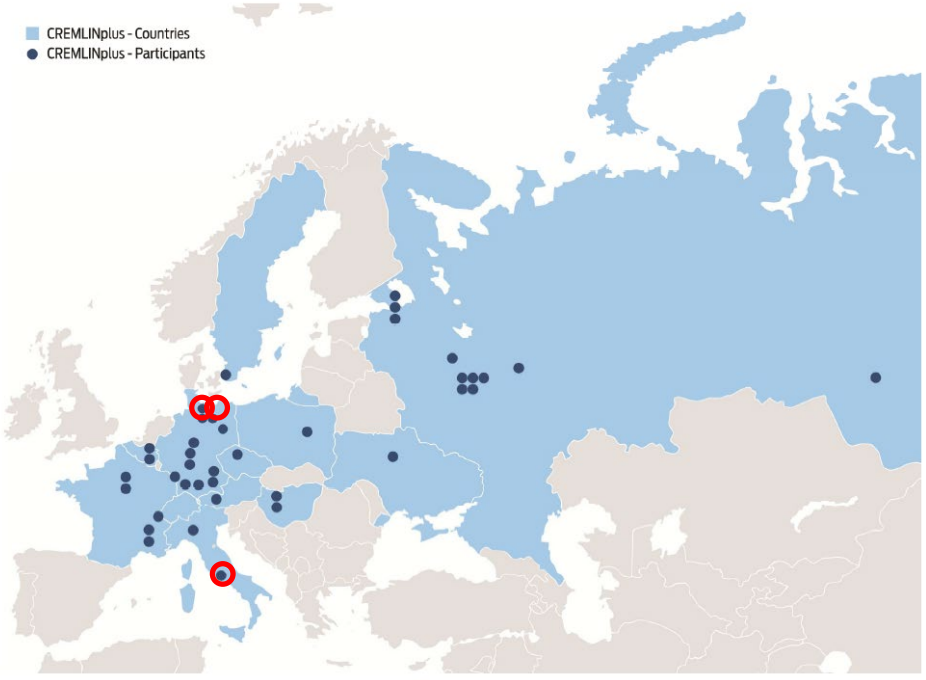
WP 4 - Transition from Cremlin+ to EURIZON

Michael Krisch (ESRF) on behalf of WP4 colleagues

Collaboration with USSR

NRC KI , DESY, ESRF, European XFEL, INFN

Synchrotrons and XFELs



ESRF, DESY, European XFEL, INFN

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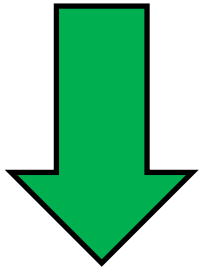
Task 4.1: Lattice and systems for the main ring (NRC KI, ESRF)

- Beam dynamics simulations for the main storage ring of USSR
- Proposal for operating RF frequency, RF cavities, and power sources of the storage ring .

Task 4.2: Diagnostics and control for the main ring (NRC KI, ESRF)

- Development of some specific pieces of software will be done in collaboration and under - Timing and synchronization system implemented at ESRF-EBS
- TANGO control system



Task 4.1: Concepts of 4th generation synchrotron machines (ESRF, DESY)

- Beam dynamics and diagnostics simulations

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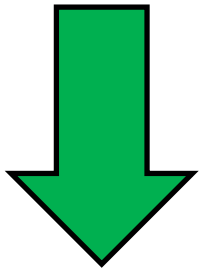
Task 4.3: Vacuum chamber impedances, beam-chamber interactions, instabilities (NRC KI , DESY, INFN)

- Study of non-linear beam dynamics to define the beam intensity limit.



Task 4.3: Vacuum chamber impedances and beam instabilities (INFN, DESY)

- Development of simulation codes to investigate the multi-bunch operation of Petra-IV
- Designing of some vacuum chamber key components and RF cavities for beam coupling impedance minimization.

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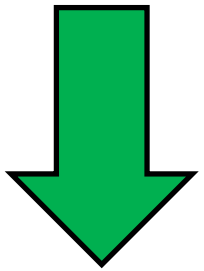
Task 4.4: Top-up Linac development including RF-guns and diagnostics system (NRC KI, European XFEL, INFN)

- Common beam dynamics simulations to develop an optimal 6 GeV topup Linac layout for SR and XFEL



Task 4.4: Linac development (INFN, European XFEL)

- 6 GeV High-brightness Linac based on S-C band technology to serve as an FEL driver and, potentially, as top-up injector for synchrotron X-ray storage rings.

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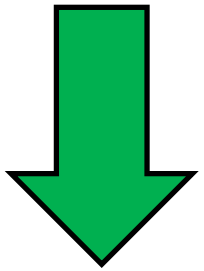
Task 4.5: Photogun prototype, its beam diagnostics and RF systems
(NRC KI, DESY)

- Development of 2 RF guns:
  one thermoionic cathode for beam injection in main ring,
  one photogun for generation of a train of short high-brightness bunches to drive a FEL



Task 4.5: Photogun prototype & beam diagnostics (DESY)

- Development of beam diagnostics for the RF photogun prototype.

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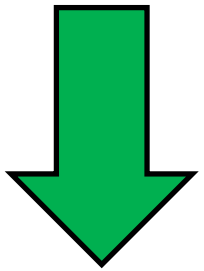
Task 4.6: Scientific case, beamlines and experimental stations: definition of perspective techniques for a 4th generation source (NRC KI, ESRF, DESY)

- Conceptual Design Reports for up to 10 beamlines in the areas of spectroscopy, scattering and imaging



Task 4.6: Development of a generic Conceptual Design Report for automated X-ray Absorption Spectroscopy Beamlines (DESY, ESRF)

- Conceptual Design Report (CDR) for a generic automated XAS beamline for catalysis research

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Task 4.7: Support strategic coordination of USSR

(NRC KI, ESRF, DESY, European XFEL, INFN)

- Discussions on the overall Russian photon science programme USSR
- Strategic coordination of the USSR project, including risk management of the project development.
- Establishment of two advisory bodies (SAC, MAC)

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WP 4 – Transition & Concluding remarks

- Work resumed with rescoped goals
- All partners are motivated and engaged
- More to come tomorrow

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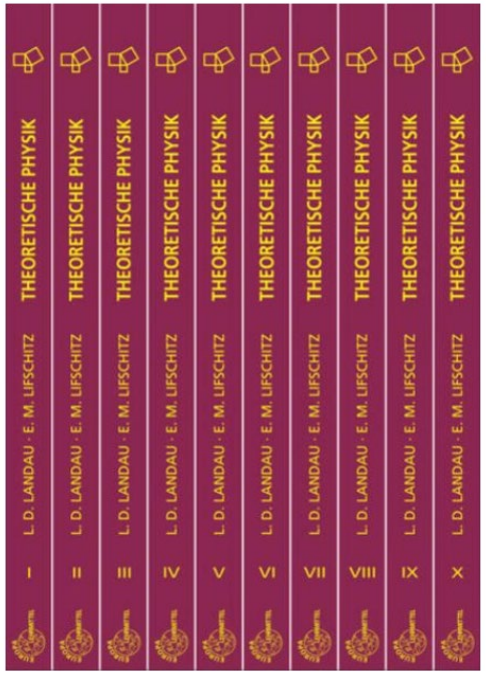
Science to unite people from all over the world for a better future

Lev Landau



Evgeny Lifshitz

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