

Deutsches Elektronen-Synchrotron DESY in der Helmholtz-Gemeinschaft

Dr. Josef Feldhaus
Coordinator of FLASH (Free Electron Laser in Hamburg)



Hamburg

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Dear Prof. Orlowska,

I know from Dr. Grzegorz Wrochna, the Director of the Soltan Institute for Nuclear Studies IPJ in Swierk that the institute is preparing a proposal for a Polish Free Electron Laser (POLFEL) to be submitted to the Innovative Economy Operational Programme. As the coordinator of the preparatory phase of the ESFRI Roadmap project IRUVX-FEL I would like to express my strong support for the POLFEL project.

Intense light beams from the infrared to the soft X-ray region are a unique probe to study the electronic properties of matter and will involve a very large user community. Free Electron Lasers (FEL) which are currently being developed, allow to generate such beams of coherent light flashing with femto-second pulses, opening up new, virtually unexplored fields of science. Possible applications cover physics, chemistry, biology, medicine, and material sciences. They will stimulate the development of new technologies ranging from micro electronics to energy. Therefore, a Technology Park built around POLFEL in Swierk would provide a vital connection between science and industry.

FLASH at DESY has been in user operation since 2005. Both the FEL facility and the user experiments have made enormous progress, with numerous discoveries and surprises and a growing number of publications in high-impact journals such as Nature or Physical Review Letters. Currently FLASH at DESY is the only operational FEL facility in the world and its capacity is far too small for the growing demand for beamtime. In addition, a strong R&D programme is pursued at FLASH in order to improve the performance of the FEL and to provide optimum conditions for user experiments, consequently reducing the availability for users to less than 50% of the time. Therefore, new FEL facilities are urgently needed in Europe.

The IRUVX-FEL Consortium has been created to coordinate the development of FELs in Europe. At present it consists of five nodes: DESY, Hamburg, with FLASH in operation; Sincrotrone Trieste, Italy, with FERMI@Elettra under construction; BESSY in Berlin and MAX-lab in Lund with FEL proposals supported by the German and Swedish Science Council,

respectively, and STFC in the United Kingdom with a new FEL project under development. The goal of IRUVX-FEL is to exploit and enhance the complementarities of the consortium members and facilities to form a unique distributed European infrastructure. Its importance has been recognised by the European Strategy Forum for Research Infrastructures (ESFRI) and hence IRUVX-FEL has been included in the European Roadmap for Research Infrastructures, a list of 35 research infrastructures vital for the European Research Area.

POLFEL would be an important element of IRUVX-FEL. It is already connected to the Consortium as a "potential beneficiary" of the preparatory phase project IRUVX-PP with the consequence that it has access to all knowledge and technology developed within the Consortium. It may become a full member as soon as the first funds are granted for the project in Poland. In this way POLFEL would be the first infrastructure from the ESFRI Roadmap located in the new European countries. In that sense, funding POLFEL as an important element of the European Research Area would be a very appropriate use of European cohesion funds. Therefore, I support this initiative very strongly.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Josef Feldhaus', written in a cursive style.

Josef Feldhaus