

Synchrotron light source in Poland!

On the 9th of April 2010 the Minister of Science and Higher Education Prof. Barbara Kudrycka and the Rector of Jagiellonian University Prof. Karol Musioł signed in the interior of Jagiellonian University Collegium Maius the contract on realization of the project "National Centre of Electromagnetic Radiation for research applications (the stage I)" - *The Synchrotron Project*.



Figure 1. The Minister of Science and Higher Education Prof. Barbara Kudrycka and the Rector of Jagiellonian University Prof. Karol Musioł signing the contract.
Photo by A. Wojnar

The synchrotron installation will consist of:

- Electron injection system including electron source and 400-700 eV linear accelerator,
- 96 m circumference, 1.5 GeV, 500 mA storage ring with 12 bending magnets separated by 3.5 m long straight sections,
- 1 undulator based experimental beamline with a multi-grating monochromator and VUV - Soft X-ray electron spectroscopy end-station.

The building complex, apart of the synchrotron installation will also accommodate all the necessary auxiliary facilities *e.g.* workshops, preparatory laboratories, staff and administration offices.

The Centre with the budget of 143 740 000 PLN is scheduled to be commissioned in September 2014.

Novel concepts have been applied to the linear accelerator and the storage ring design which is based on the integrated bending magnets technology developed by the accelerator team at MAX-lab in Lund with whom the Memorandum of Understanding was signed in 2009.

The participation of the MAX-lab experts is fundamental to the project. The innovative design of the machine allows for creating a very powerful instrument at a very competitive price.

It will be able to provide radiation from both the bending magnets and insertion devices at the wavelength from infrared (IR) to X-ray region (with critical energy of not less than 5 keV at SCW), also opening possibilities of research in THz frequencies.

Although the project includes only one experimental beamline it is assumed that the search for funds for the range of new beamlines will start immediately. These can be either bending magnet, undulator or wiggler (superconducting) based facilities.

The Centre will be situated within the Jagiellonian University's III Campus area, the new location for the Science Faculties and the site of the Jagiellonian Center of Innovation – Life Science Park.

The idea of building a synchrotron light source in Poland has started about 12 years ago. Today it has materialized. The success should be billed to the entire Polish community of synchrotron radiation users who, for many years, through their outstanding research at synchrotron facilities abroad supported the case of the Polish Synchrotron.

Over the years many people were directly involved in repeated attempts for setting up Polish synchrotron facility. They have their big share in the last success.

The names of the final group members, who in 2009-2010 were working on defining, completing and submitting the successful *Synchrotron Project* application are: E.A. Görlich, K. Królas, M.J. Stankiewicz, J. Szwed, and K. Tomala, all from the Institute of Physics, and Michał Młynarczyk from the administration of the Jagiellonian University.



Figure 2. April 2010 - Jagiellonian University III Campus - the plot allocated for the Polish Synchrotron (50°01'21" N:19°53'37" E). *Photo by M.J. Stankiewicz*



Figure 3. September 2014 - the constructor's impression of the facility. *Drawing by PROBADEX*

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