Heavy Ion Laboratory

Krzysztof Rusek, Jarosław Choiński, Paweł Napiorkowski

HEAVY ION LABORATORY, UNIVERSITY OF WARSAW

Heavy Ion Laboratory at the University of Warsaw (HIL) continues a tradition of the first nuclear physics laboratory build by Prof. Andrzej Sołtan at the University of Warsaw before the second world war. It is the largest nuclear physics laboratory in Poland. It runs two cyclotrons – isochronous heavy ion cyclotron U-200P, unique accelerator of this kind in the mid-eastern European countries and GE PETtrace cyclotron delivering high intensity proton and deuteron beams.

HIL serves as a national laboratory, open for external users. Being a unit of the University of Warsaw HIL is also engaged in teaching organizing national and international workshops for students, and the data collected during experiments performed at HIL are used in Bachelor, Master, PhD and DS Thesis. From 2010 r. HIL, together with the Institute of Nuclear Physics PAS forms a consortium called National Cyclotron Centre that, from 01.03.2016 r., is among ten European laboratories with Transnational Access granted by the European Union via the ENSAR2 project within HORIZON2020 framework.

Concerning nuclear physics research, leading specialty is the study of electromagnetic properties of nuclei investigated by means of Coulomb excitation method. The experiments are performed at HIL but local scientists are also participating in experiments performed at other laboratories. Apart from pure nuclear physics research, HIL is involved in research for medical and biological applications. Studies on the interactions of nuclear radiation with biological samples as well as on the applications of radioisotopes in medicine are carried on. The former studies are performed at the Radiopharmaceutical Production and Research Centre open at HIL a few years ago. At this Centre, the commercial radiopharmaceuticals for hospitals are also produced.