

STATUS OF FINESTBEAMS BEAMLINe AT MAX-IV LABORATORY

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MAX IV laboratory is a new synchrotron radiation research center located in Lund Sweden. When MAX IV facility starts operation in June 2016, it will be the brightest synchrotron source worldwide. Currently 13 beamlines are funded for the MAX IV facility, FinEstBeaMS is one amongst them.

FinEstBeaMS beamline is a materials science beamline to be built at the 1.5 GeV storage ring of the MAX-IV facility. FinEstBeaMS beamline has two branch lines dedicated for research of matter in its various forms: gases and liquids but also nanoparticles and solids.

Beamline will help to understand processes occurring in the upper part of atmosphere, fragmentation pathways of organic molecules and radiation damage of biomolecules like ones forming DNA. It will be possible to investigate formation of nanoparticles, characterize luminescent materials, investigate nanomolecular layers on alloy surfaces and electrochemical double layer capacitors *in situ*.

Investigation probes at FinEstBeaMS are vacuum ultraviolet light and soft X-rays (4.3 eV - 1000 eV), produced by elliptically polarizing undulator and selected by plane grating monochromator. At endstation for gases and liquids electron, ion spectrometers and detectors for photoluminescence will be installed.

Currently beamline components are ready for installation, which occurs 2016. Gas-phase endstation is under construction and will be ready in autumn 2016. FinEstBeaMS will have first light at 2017.

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[1] The parts of M. Huttula, E. Kukk, and J. Hölsä of the SR-MAXIV project.

[2] FinEstBeaMS phase II – Turku and Oulu Universities and Tampere University of Technology.