Overview of Nuclear Resonance Scattering at PETRAIII

Ilya Sergeev

High Resolution Dynamics Beamline P01 at PETRAIII is the beamline which is partly dedicated to perform Nuclear Resonance Scattering experiments. Currently, it is possible to perform experiments with 5 Mössbauer isotopes: 57Fe, 119Sn, 121Sb, 125Te, and 193Ir at energies from 14 keV till 73 keV. Both, nuclear inelastic and nuclear forward scattering studies can be performed with those isotopes, except 193Ir, where only second technique is possible. In addition to the conventional synchrotron techniques, development of the 57Fe Synchrotron Mössbauer source is going on at the beamline.
In this talk, the overview of the nuclear resonance scattering at P01 will be presented including description of the X-ray optics and sample environment and presentation of few examples of the studies.