

Single Micrometer-Sized Objects in the Focus of Synchrotron Radiation

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"Nano" is a key word for present and future technologies. Applications in nanoscience with x-ray beams focused to the nano-size appear often in this context. On the other hand, micron-sized systems do still exhibit interesting properties that are waiting to be revealed. Techniques like imaging and diffraction are opening this exciting field. While standard X-ray techniques are mostly dealing with ensembles of objects and averaged (statistical) properties, micro-diffraction is expected to bring light on the local structure of single objects and relate them to their physical properties.

After a brief description of the new micro-diffraction setup at ID-01 beamline (ESRF), I will show examples of micron-sized objects studied using the micro-beam diffraction technique: i) one-dimensional rolled-up (nano)tubes; ii) single micron-sized Ge pyramids on Si(001).

Future developments will be also addressed, which will open new opportunities for users of ID01.