

HIGH BRILLIANCE LABORATORY SOURCES FOR SMALL X-RAY BEAMS

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In this poster we give an overview on current developments of our high brilliance microfocus source, named I μ S, for diffractometry in the lab. The I μ S consists of a 30 W air-cooled sealed tube with a small anode spot below 40 μ m. It is available with Cu, Mo, Ag or Cr radiation. The attached multilayer optics shapes the beam in two directions. Focussing of the beam is as possible as collimating. We explain the unique features of the X-ray source and the design, production and characterization of the multilayer optics. Beam parameters like monochromaticity, flux, brilliance and divergence demonstrate the quality of the I μ S.

Selected examples of applications show the benefit of the new microfocus solutions, especially in combination with modern detector technology.

The I μ S can be combined with all types of 2-dim detectors, like image plates or CCD's. Furthermore, it can be used to upgrade older equipment as well as being a fully integrated component in a modern diffractometer.

We will be showing the following applications, to name but a few:

- texture measurements of high-temperature-superconducting thin films, in order to optimize technically relevant parameters
- grazing incidence small angle scattering of multilayer films in order to compare deposition processes
- structure measurements of crystals at non ambient high-pressure conditions
- temperature-induced phase transitions of an organic semiconductor material
- spatially resolved stress analysis of welding-seams at iron-containing „real“ automotive parts

INFORMATION PAGE for the abstract
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We don't intend to publish this paper. As a company we have no real exciting news for the participants from the scientific viewpoint. This contribution is mainly on instrumentation and has more an overview character. And we would not like to publish similar results in several journals.