Light up your ideas

ANKA-CoS provides professional project management together with unique access to beamtime for industrial customers. ANKA-CoS is offering full service for your analytical questions. We provide solutions for problems and use our expertise to support industry.

Industrial Activities and Business Fields @ ANKA:

**ANKA Synchrotron Analytical Services**

**Non-Destructive Testing and Diagnostics**

Examples of Services:

- Synchrotron Radiation Computed Lamography inspection of flip chip bonded electronic devices (1)
- Microchemical analysis of art objects and historical manuscripts (2)
- Determination of the structure, interatomic distances, and the coordinates of samples (e.g., single crystals, thin layers, nanostructured materials)
- X-ray 3D imaging of weakly absorbing materials and organisms obtained by edge detection phase-contrast microtomography
- Determination of concentrations and elemental distribution in different materials, including the radioactive sediments (3)
- Detection of trace elements at sub ppm-level (4)
- Determination of residual stress in the samples surface and near the surface

**ANKA Synchrotron Technology**

Product Development of:

Superconducting Undulators

To fit the needs of synchrotron radiation facilities by developing undulators based on higher magnetic fields for a given gap size and period length compared to permanent magnet undulators.

**LIGA Micro Fabrication and NDE @ ANKA**

Direct LIGA Prototyping

Example:

- Microstructured direct LIGA parts for the watch industry (X-ray lithography) (5)(6)

Replication e.g. from Polymer

Example:

- Logo of the FZK printed into 500 µm deep resist (PMMA) (7)(8)

Development for Serial Production

The semiautomated fabrication line FELIG will provide LIGA parts to the microsystems community (9)(10)

* Collaboration with:
(1) ESRF, France
(2) University Politecnica de Catalunya, Spain
(3) Institute for Waste Disposal, KIT Karlsruhe, Germany
(4) Institute of Mineralogy and Geochemistry, KIT Karlsruhe, Germany
(5) Institute for Microstructure Technology, KIT Karlsruhe, Germany
(6) Microworks GmbH

For additional information about proprietary research and industrial beamtime usage, please contact ANKA Commercial Services.

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