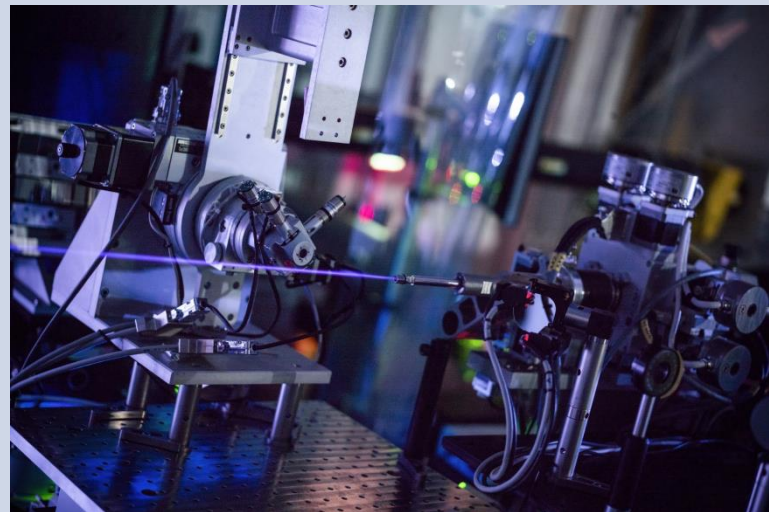


System for full remotely controllable manipulation of X-ray beam

Value proposition:

- Controllable magnification factor
- It works over a broad range of wavelength
- Minimizes downtime because of:
 - ✓ Remote set-up option
 - ✓ No hardware change required
 - ✓ No chamber opening required



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The technology was originally developed for X-ray imaging with μm resolution:

- Radiography
- Tomography
- Phase/absorption contrast imaging

The technology can potentially be used at **synchrotrons and FELs** for:

- Building novel high heat load X-ray monochromators

Applications using **laboratory X-ray sources**:

- Tunable X-ray beam shaft expansion and collimation

Proposal SWOT Analysis

Strengths

- The system allows changing magnification for a large dynamic range of X-ray parameters without changing hardware, saving downtime in the process of characterization.
- The pending patent is protecting the set-up and the method thereof

Weaknesses

- The system works only with X-ray since it is based on the ultimate Bragg magnifier technology.
- The flexibility of full controllable magnification is paid by less efficiency in the power transmission.

Opportunities

- Characterization methods with different source parameter during the same session are enabled

Threats

- No competitive technologies have been identified

IPR Status & Contact Information

Patent pending for grant at European Patent Office

European XFEL: MHz coherent X-ray flashes of fs duration

- *X-ray light*: Samples at atomic resolution
- *Ultrashort flashes*: Femtosecond dynamics
- *Intense X-ray pulses*: Low-intensity sample
- 27 000 X-ray laser flashes per second are delivered
- Experiments formerly worked with max 120 flashes per second
- Bunch trains: 4.5 MHz total repetition rate



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