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PRESS RELEASE

Inprentus Awarded $248,000 Contract to Provide the US Department of Energy's SLAC National Accelerator Laboratory with Ultra-high Precision Diffraction Gratings

Inprentus diffraction gratings will be custom manufactured for applications at the SLAC Linac Coherent Light Source II (LCLS-II) to be used in a monochromator for the soft x-ray end-stations in the Near Experimental Hall (NEH2.2).

Champaign, Illinois, USA, November 15th, 2018: A contract has been awarded to Inprentus for the custom manufacture of four mechanically ruled blazed gratings for the US Department of Energy's SLAC National Accelerator Laboratory. These custom high-precision diffraction gratings with ultra-low blaze angles will provide an exceptionally high flux of monochromatic photons to end-stations that utilize a selection of soft x-ray techniques, including RIXS, REXS, XAS and XPCS. The ultra-low blaze angle specification for these diffraction gratings is a significant advancement that has not previously been achieved using a mechanical ruling process.

Inprentus has developed the capability to mechanically rule blazed diffraction gratings with blaze angles below 0.2 degrees. The capability to create such precision optics was demonstrated to SLAC through R&D efforts, ultimately leading to this contract. This advance in optics capabilities has opened the door to newly-available types of experiments, which will be available to users of the LCLS-II facility after the forthcoming upgrade.

> "Working closely with our customers enables Inprentus to optimize our custom product designs and challenges us to advance our capabilities," said Ron van Os, CEO at Inprentus. "We are continuously learning from our customers and are pushing past traditional technical barriers in the manufacture of mechanically ruled blazed gratings."

SLAC National Accelerator Laboratory LCLS-II

The LCLS, located in Menlo Park, California, takes x-ray snapshots of atoms and molecules at work, revealing fundamental processes in materials, technology and living things. Hundreds of scientists each year conduct groundbreaking experiments into the fundamental processes of chemistry, materials and energy science, biology and technology at LCLS. Inprentus' products are used to diffract pulses of x-ray light at a timescale at which the

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motion of atoms can be seen and tracked. The planned LCLS-II upgrade will expand the energy range, enable a higher repetition rate, and enhance the brilliance of LCLS, permitting unprecedented capabilities in collecting data.

Inprentus Diffraction Grating Products

Blazed diffraction gratings are a core component used within spectrometer and monochromator instrumentation at SLAC and many other synchrotron and free electron laser facilities around the world. Inprentus' diffraction gratings are custom manufactured for each application. The company works closely with each scientist to customize the design of their diffraction grating so that it is optimized for their unique application. Inprentus offers a wide range of specifications of blaze angles, line densities, and dimensions that scientists can specify to help optimize their x-ray experiments to study the inner workings of materials and the fundamentals concepts of matter.

Inprentus Inc.

Inprentus designs, manufactures and sells x-ray and EUV diffraction gratings for synchrotron radiation facilities. Inprentus' gratings are used for a variety of scientific and commercial applications by many Fortune 500 companies, academic institutions and government laboratories around the world. The company was founded in June 2012 to commercialize an innovative, nano-scale scribing technology. This technology is a general purpose approach to high-precision patterning of surfaces, and is particularly suited to x-ray and EUV diffractive optics in which features must be shaped with 0.1 degree angular precision and positioned with nanometer precision over distances of tens of centimeters.

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