ARBOR PHOTONICS

PRESS RELEASE

Arbor Photonics Awarded SBIR Phase IB Funding for High Power, Short Pulsed Fiber Lasers

Ann Arbor, MI, September 8, 2010: Arbor Photonics, Inc. has received SBIR Phase IB funding from the National Science Foundation (NSF) for its work on "High Power Pulsed Fiber Lasers for EUV Lithography". This supplemental award will support production of 3C™ (Chirally-Coupled Core) optical fiber to achieve 200 W average power, several mJ, nanosecond lasers in the 1030 – 1090 nm wavelength range with single mode output. The 3C fiber concept is a revolutionary type of optical fiber that utilizes an internal structure to produce single spatial mode output from very large core fibers. Current 3C fibers with 35 µm central core diameter have already produced > 100 kW peak power short pulsed output at power levels on the order of 100 W with $M^2 < 1.1$. In order to meet the increased performance goals, the current fiber design will be scaled to at least 50 µm core diameter.

This Phase IB award is an extension of a Phase I design effort focused on developing high power, single-emitter fiber laser modules with exceptional beam quality and narrow linewidth. These features will permit spectral combining of closely spaced laser channels to produce a single beam of nanosecond pulses with an average power of several kilowatts. The resulting laser system is intended for use in next generation Laser Produced Plasma Extreme Ultraviolet Lithography (LPP EUV). According to the 2009 International Technology Roadmap for Semiconductors, EUV Lithography will be needed for patterning high performance semiconductor integrated circuits by 2016.

About Arbor Photonics: Arbor Photonics (www.arborphotonics.com) is committed to providing high power fiber laser solutions that increase productivity and enable new capabilities for advanced laser materials processing and defense applications. We are developing highly reliable fiber lasers that feature an unmatched combination of beam quality and optical power. These lasers can enable dramatic improvements in throughput and processing speed in microelectronics manufacturing, solar cell processing and industrial materials processing applications.

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