

FOR IMMEDIATE RELEASE

Arradiance® Lands Department of Energy Grant

Unique process will lead to larger, more efficient elementary particle detectors

Sudbury, Mass., June 3, 2010 – Arradiance, Inc. has been awarded a grant under the Department of Energy Small Business Innovation Research (DOE SBIR) program to develop large-area microchannel plates for use as an alternative to traditional photomultipliers.

Microchannel plates are used in numerous imaging and detection applications where high spatial and temporal resolution coupled with high signal to noise ratio are important. Example applications include: astrophysical and earth-observing satellite instrumentation, biotechnology, analytical instrumentation, homeland security and night vision. The ability to make these plates larger without using costly lead-glass multiple draw processes will expand market penetration by lowering cost and enhancing overall performance of any detector in which they are a component.

“For decades, microchannel plate performance has improved only marginally due to a manufacturing process which has been constrained by available materials and processes,” explains Neal Sullivan, CTO of Arradiance. “The requisite lead-glass substrate material has limited the ability to optimize microchannel plate performance for applications where lifetime, gain, substrate size and composition are important. Arradiance’s proprietary nanofilm technology makes it possible to fabricate microchannel plates from many substrate materials, including lead or non-lead containing glasses, ceramics, silicon and even plastic. The independence of the nanofilms from the substrate material enables both optimization of performance and a move to larger substrate sizes.”

The basis for the grant is the development of a lower cost plate up to 8” x 8”. This plate would be used in MCP-based Photomultipliers (MCP-PMTs) and tiled together in such a way as to achieve very large, very fast detectors for projects like the large neutrino detectors currently in development by the National Science Foundation.

“Prior to this, making MCP-PMTs larger than about two inches square has been difficult and costly,” explains David Beaulieu, Arradiance Chief Operating Officer. “Our nano-engineered activating thin films allow us to employ less expensive substrate manufacturing techniques, thereby driving down the overall cost of the detector while improving performance”.

About Arradiance

Arradiance is enabling us to better perceive the hidden world all around us. Their functional film technologies greatly enhance the performance of imaging and detection systems, providing resolution, gain and lifetime improvements that were previously unattainable. Their enabling processes will open the door to a new world of flexible, robust, electro-optic systems that will change the way we see our world. Learn more at www.arradiance.com.

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