



September 21, 2012

Dr. Kanai S. Shah
President
Radiation Monitoring Devices, Inc.
44 Hunt Street
Watertown, MA 02472

Dear Dr. Shah,

This letter is written in support of your SBIR Phase I proposal entitled "*Improved Detectors for 10 ps Charged Particle Timing*." Large area avalanche photodiodes with less than 10ps timing resolution across the entire active area would be a significant technological achievement and would find immediate application in particle detectors. I am particularly excited to hear that RMD is undertaking a new design approach on avalanche photodiodes to reach that goal.

The Ultrafast Laser Application Laboratory at the Instrumentation Division of Brookhaven National Laboratory would be pleased to participate in the characterization of your newly developed avalanche photodiodes using various optical techniques, including laser scanning with ultra-short light pulses and picosecond optical timing resolution measurements at high repetition rate. Support for our effort associated with the RMD proposal would be \$31k total including additional optical and electronics components, and 0.15 FTE salary support.

Instrumentation Division at Brookhaven National Laboratory was founded for the purpose of pursuing the development of sophisticated detector, electronic, optical and laser instrumentation with a broad range of applications. Complementing our scientific expertise is a unique dual mode of conducting research. I look forward to the opportunity of close collaboration with RMD; and enjoy the long time collaboration with Professor Kirk McDonald and Dr. Changguo Lu of Princeton University.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas Tsang", written in a cursive, flowing style.

Thomas Tsang, Ph.D.
Physicist