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Electrically Conductive and Dynamic Mode Probes Join Advanced Diamond Technologies' Award-winning Family of All-diamond Atomic Force Microscopy (AFM) Probes

Romeoville, IL—May 8, 2009— Advanced Diamond Technologies (ADT) announces two additions to its award-winning NaDiaProbe® family of all-diamond probes for atomic force microscopy (AFM)—electrically conductive and dynamic mode probes. Both varieties are available immediately.

NaDiaProbes harness the unsurpassed properties of diamond while providing outstanding durability, dimensional stability and wear resistance. Compared with standard silicon or silicon nitride probes, NaDiaProbes last over 100 times longer when imaging hard surfaces while maintaining tip radii better than 25 nm. NaDiaProbes also exhibit the low adhesion and low surface energy properties of diamond which enhance performance when imaging soft, sticky materials.

ADT's electrically conductive NaDiaProbes offer these same advantages in addition to high electrical conductivity. Electrically conductive NaDiaProbes are made from doped diamond with a resistivity of approximately 0.1 ohm·cm, enabling applications such as scanning spreading resistance microscopy (SSRM), scanning tunnelling microscopy in harsh environments, piezoelectric force microscopy, and electrochemical AFM.

Dynamic mode NaDiaProbes with frequencies of approximately 300 kHz are suitable for the majority of AFM general imaging applications as well as metrology, inspection and manufacturing at the nanoscale. "Dynamic mode is the most common usage of AFM probes, and we're pleased to now offer NaDiaProbes to the largest segment of the industry," said Neil Kane, ADT's president.

Due to diamond's extreme durability, NaDiaProbes are perfect for applications where tip breakage and replacement are a problem. NaDiaProbes lower costs and improve efficiency by reducing the frequency of tip replacement enabling AFM to be used in industrial quality control settings.

Priced competitively with standard AFM probes, NaDiaProbes cost significantly less than diamond- or metal-coated silicon and tungsten probes. Unlike silicon probes that are coated with a conducting metal or other materials, NaDiaProbes are monolithic diamond structures so there is no coating to flake off—both the cantilever and probe tip are made of ADT's award-winning thin-film form of nanocrystalline diamond material, UNCD®.

"There has been a need for robust, conductive AFM tips for some time. Researchers are frustrated with current solutions due to fast tip wear or large tip radius. NaDiaProbes are the first AFM probes to keep the tip radius small while providing a highly conductive, wear-resistant probe," said Mark Flowers, executive director of Nanoscience Instruments. "ADT's

electrically conductive NadiaProbes open up new avenues for productive, reliable probing of electronic phenomena at the nanoscale."

“Starting with our award-winning UNCD Wafers, which are known for excellent uniformity and low film stress, we applied standard semiconductor micromachining techniques to deliver affordable diamond devices with superior durability," said Dr. John Carlisle, ADT's chief technical officer.

NaDiaProbes can be ordered directly from ADT or through its distributors at http://www.thindiamond.com.

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About Advanced Diamond Technologies

ADT is the world leader in developing and applying diamond films for industrial, electronic, and medical applications. Formed to commercialize the ultrananocrystalline diamond technology developed at Argonne National Laboratory, ADT is the exclusive licensee to its portfolio of diamond patents. ADT is a World Economic Forum 2007 Technology Pioneer as well as being a runner-up for the *Wall Street Journal's* 2006 Technology Innovation Award. For more information about ADT, visit http://www.thindiamond.com.

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