

Press Release

Mark Kretschmar
Lion Precision
Communication Manager
651-484-6544, fax 651-484-6824
mark@lionprecision.com

New Book Details Precision Spindle Measurement Techniques

St. Paul, MN USA, December 11, 2007

Spindle error motions are a primary source of quality degradation and product failures in machine tools, disk drive spindles, and any other processes requiring a precision rotating axis. Measuring the spindle error motions enables engineers and operators to determine the capabilities of the spindle before making parts or installing the spindle in a larger system. The difficult task of measuring spindles to the nanometer or picometer level has now been fully described in a new book by Professor Eric Marsh of The Pennsylvania State University. *Precision Spindle Metrology* details important concepts, mechanical setup, high-resolution sensor options, and detailed data analysis techniques. The book ends with chapters on specific case studies and meaningful applications of spindle measurement results.

Spindle error motions on machine tools are responsible for errors in feature location, feature roundness and surface finish. In disk drives, spindle error motions limit data density. The maximum speed of high-speed drills is limited in part by spindle error motions. *Precision Spindle Metrology* takes the reader step by step through the process of understanding which error motions may be responsible for quality issues, selecting and using a sensor system to measure error motions at full operating speeds, collecting and processing the data, and deriving error motion values from the tests. The full color book includes diagrams, illustrations, and photos on nearly every page to assist the reader in fully understanding the concepts and other content.

Precision Spindle Measurement was commissioned by Lion Precision (www.lionprecision.com), a leading manufacturer of nanometer resolution capacitive sensors and Professional Instruments (www.airbearings.com), a world leader in high-precision air bearing spindles.

Professor Eric Marsh heads the Machine Dynamics Research Lab at Penn State where he is a professor of mechanical engineering. He holds Ph.D. and M.S. degrees from MIT for his research work with Professor Alexander Slocum's Precision Engineering Group and is regarded as a leading expert in the measurement and understanding of machine tool performance, especially the axis of rotation.

More information and sample pages are available at www.precisionspindlemetrology.com. The book can be purchased through Lion Precision (www.lionprecision.com) or through Amazon.com.

For more information visit www.lionprecision.com or contact Lion Precision at:

Lion Precision
563 Shoreview Park Rd.
St. Paul, MN 55126 USA
651-484-6544
www.lionprecision.com
info@lionprecision.com

###