



Sang Y. Kim, Ph.D.
Managing Director, Guided Wave Analysis LLC

B.S. in Physics, Kyungpook National University, 1989
M.S. in Physics, Korea Advanced Institute of Science and Technology, 1991
Ph.D. in Physics, Korea Advanced Institute of Science and Technology, 1995

Over the last 34 years, Dr. Kim has been researching and developing new techniques, sensors, and software for nondestructive evaluation (NDE) of materials and structures. He has significant experience in the field of ultrasonic and electromagnetic physics, including guided wave inspection and monitoring using magnetostrictive sensor (MsS), ultrasonic (UT), electromagnetic acoustic transducer (EMAT), eddy current testing (ECT), and impedance spectroscopy technologies.

Since joining Guided Wave Analysis LLC in 2007, Dr. Kim has involved in researching and developing ultrasonic guided wave technology to find more field application areas; demonstrating, and training MsS technology for ultrasonic guided wave inspection and monitoring; developing software for guided-wave data analysis; consulting inspection service company, oil and chemical companies, university, and research institute in ultrasonic guided wave testing applications. Dr. Kim has been worked for inspection companies servicing refinery, chemical plants as an inspector, trainer, and consultant.

Prior to joining Guided Wave Analysis LLC, Dr. Kim worked at the Southwest Research Institute® (SwRI®) from 1999 to 2007. He was involved in research and development in the field of MsS technology for inspecting pipe, rod, cable, tube, sheet, and plate. He was heavily involved with several projects such as detection of aircraft corrosion and structural defects; defect sizing for containment inspection in nuclear power plants; anchor rod and stub angle inspection of electric power transmission lines; suspender rope inspection in bridges; long-range guided wave inspection of pipe for the petrochemical industry; and torsional mode inspection in water-filled or coated pipe; high-power, long-range guide-wave inspection of pipelines; development of MsS heat exchanger probe for guided-wave inspection. In these projects, he performed application research, inspection procedure development, MsS probe design, measurement with the MsS system, and programming for data analysis and reporting. As Level 3 in Guided Wave Testing, he trained personnel in inspection companies.

Dr. Kim worked in Pohang Iron & Steel Company, Ltd. (POSCO) as an Associate Researcher. He concentrated on on-line NDT applications using EMATs, UT backscattering, magnetic flux measurement, ECT, UT surface wave. For his M.S. and Ph.D. works, Dr. Kim researched electric impedance spectroscopy and ultrasonic measurement in NDT laboratory of applied physics department.

Dr. Kim has granted 14 US patents about guided wave testing application using MsS technology to various structures. He has presented and published 40 scientific papers on various NDE-related topics. He is MsS Level 3 and trainer in Guided Wave Testing, ASNT NDT Level 3 in UT and ET, awarded 2006 R&D 100 with MsS heat exchanger probe development, and awarded 2011 ASNT outstanding paper award with “Improving Guided Wave Testing of Pipelines with Mechanical Attachments,” and editorial advisory board member of two journal in www.net.net.

PROFESSIONAL CHRONOLOGY: Dept. of Physics, Korea Advanced Institute of Science and Technology, teaching assistant, 1991-95; Technical Research Laboratories, Pohang Iron & Steel Co., Ltd., associate researcher, 1995-99; Southwest Research Institute, 1999-(postdoctoral researcher, Dept. of NDE Science & Technology, 1999-2000; research scientist, 2001; senior research scientist, 2002-2007; consultant, 2007-, Department of Sensor Systems & NDE Technology); Guided Wave Analysis LLC, managing director, 2007-; Editorial Advisory Board member in ndt.net.

September/2024