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S.H. Shin, Y.B. Lee, S.S. Jung and D.H. Lee	
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Experimental Study on the Infrared Information of Metal Specimen when Loaded	1968
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On Nondestructive Evaluation of Wood Materials Using Ultrasonic Techniques	1973
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J.Y. Nam, J.B. Choi, Y.J. Kim and C.R. Pyo	
Development of a Fiber-Optic AE Sensor for On-Line Monitoring System	1985
J.Y. Nam, J.B. Choi and Y.J. Kim	
Sub-Surface Crack Detection by Using Laser Induced Transient Stress Wave Propagation	1992
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Quality Monitoring of Thermally Degraded Stationary Gas Turbine Blade Material by Surface Wave Technique	1998
J.W. Byeon, C.S. Kim, J.H. Song and S.I. Kwun	
An Active Piezo Array Sensor for Elastic Wave Detection	2004
Y.S. Lee, D.J. Yoon, S.I. Lee and J. Kwon	
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