



Herbert R. Weischedel

CEO/President NDT Technologies, Inc.

Degrees:

Doktor-Ingenieur (Electrical Engineering)
(Technische Universität Berlin, Berlin, Germany)
Master of Science in Electrical Engineering
(University of Washington, Seattle, Washington)
Diplom-Ingenieur (Electrical Engineering)
(Universität Stuttgart, Stuttgart, Germany)

Professional Engineer, licensed in the State of Connecticut

Senior Member IEEE
Member Sigma Xi
Member American Society for Nondestructive Testing
Member ASTM Committee E7.07.10, Wire Rope Applications

Employment:

NDT Technologies, Inc.,
Otis Elevator Company,
AT&T Bell Laboratories,
The University of British Columbia (Canada),
Technische Universität Berlin (Germany),
Dornier Aircraft Company (Germany),
University of Washington
Brown, Boveri & Cie (Germany),
Universität Stuttgart (Germany).

Government R&D Contracts:

“Electromagnetic Inspection of Wire Ropes using Sensor Arrays,” SBIR Phase I,
Office of Naval Research, Department of the Navy, Contract No. N00014-82-C-
0146.

“Electromagnetic Inspection of Wire Ropes using Sensor Arrays,” SBIR Phase II,
Office of Naval Research, Department of the Navy, Contract No. N00014-83-C-
0484.

“Electromagnetic In-Service Inspection of Liquid Metal Reactor Steam Generator Tubing,” SBIR Phase I Award, Department of Energy, Contract No. DE-AC01-85ER80302.

“Universal Power Conditioning Module for Naval Applications,” Naval Sea Systems Command, Department of the Navy, Contract No. N00024-24-86-C-05510.

“Constant Tension Spooling Device for Wire Rope and Cable,” SBIR Phase I Award, David Taylor Ship Research and Development Center, Department of the Navy, Contract No. N00167-87-C-0026.

“DC-to-400Hz Inverter,” SBIR Phase I Award, NASA Lyndon B. Johnson Space Center, Contract No. NAS 9-17944.

“Power Amplification for Underwater Electro-Acoustic Transducers,” SBIR Phase I Award, Naval Coastal Systems Center, Department of the Navy, Contract No. N61331-88-C-0028.

Publications and Patents on Nondestructive Testing

- [1] H.R.Weischedel, “Method and Apparatus for Magnetically Testing Metal Tapes”, U.S.Patent 4,270,988, 1979 (also Foreign Patents, assigned to Otis Elevator Company).
- [2] H.R.Weischedel, “Magnetic Inspection Device,” US Patent 4,659,991, 1987 (also Foreign Patents).
- [3] H.R.Weischedel, “Method and Device for Nondestructively Inspecting Elongated Magnetic Objects for Structural Defects Using Longitudinally Arranged Magnet Means and Sensor Means Disposed Immediately Downstream Therefrom,” US Patent 5,414,353, 1995 (also Foreign Patents).
- [4] H.R.Weischedel, “Method and Device Including Primary and Auxiliary Magnetic Poles for Nondestructive Detection of Structural Faults,” US Patent 5,751,144, 1998 (also Foreign Patents).
- [5] H.R.Weischedel, “Eddy Current Sensor Assembly for Detecting Structural Faults in Magnetically Permeable Objects,” US Patent 6,265,870, 2001 (also Foreign Patents).
- [6] H.R.Weischedel, “Magnetic Inspection Device,” US Patent Application Publication US 2010/0148766 A1, June 17, 2010.
- [7] H.R.Weischedel, “Electromagnetic Inspection of Wire Ropes Using Sensor Arrays, Phase I Final Report,” Office of Naval Research, Contract N00014-82-C-0146, July 1982, Final Report, NTIS AD Number A120227.

- [8] H.R.Weischedel, "Electromagnetic Inspection of Wire Ropes Using Sensor Arrays, Phase II Final Report", Office of Naval Research, Contract N00014-83-C-0484, December 1985.
- [9] H.R.Weischedel, "Electromagnetic In-Service Inspection of Liquid Metal Reactor Steam Generator Tubing, Phase I Final Report," US Department of Energy, Contract DE-AC01-85ER80302, March 1986.
- [10] H.R.Weischedel, "The Inspection of Wire Ropes in Service: A Critical Review," Materials Evaluation, Vol. 43, No. 13, December 1985, pp.1592-1605.
- [11] H.R.Weischedel, "Quantitative In-Service Inspection of Wire Ropes," Material Evaluation, Vol. 46, No. 4, March 1988, pp.430-437.
- [12] H.R.Weischedel, R.P.Ramsey, "Electromagnetic Testing, a Reliable Method for the Inspection of Wire Ropes in Service," NDT International, Vol. 22, No. 3, June 1989, pp.155-161.
- [13] H.R.Weischedel, C.R.Chaplin, "Inspection of Wire Ropes for Offshore Applications," Material Evaluation, Vol. 46, No. 4, March 1988, pp. 430-437.
- [14] H.R.Weischedel, C.R.Chaplin, "The Inspection of Offshore Wire Ropes: The State-of-the-Art," Offshore Technology Conference, Houston, TX, May 1992, Paper No. 6969.
- [15] H.R.Weischedel, "Quantitative In-Service Inspection of Wire Ropes: Applications and Theory," International Advances in Nondestructive Testing," Warren J. McGonnagle, Editor, Gordon and Breach Science Publishers, Vol. 15, 1990, pp. 83-118.
- [16] H.R.Weischedel, "A Review of Electromagnetic Methods for the Inspection of Wire Ropes," ASNT 1990 Fall Conference Seattle, October 1990, pp. 157-160.
- [17] H.R.Weischedel, "Review of In-Service Wire Rope Inspection Methods," Transactions of the Society for Mining, Metallurgy, and Exploration, Vol. 288, 1990, pp. 1865-1868.
- [18] H.R.Weischedel, "Electromagnetic Inspection of Dragline Hoist and Drag Ropes," Wire Rope News, Vol. 12, No.1, 1990, pp. 8-13.
- [19] H.R.Weischedel, "Should You Inspect Your Wire Ropes," Wire Rope News, Vol. 11, October 1989.
- [20] H.R.Weischedel, "A Survey of Wire Rope Inspection Procedures," Elevator World, December 1981.
- [21] H.R.Weischedel, "The Inspection of Wire Ropes in Service," Wire Journal International, Vol. 18, No. 9, September 1985.
- [22] E.Haibach, H.-W.Höhle, H.R.Weischedel, "Methods for and Findings from Bridge Cable Inspections," Eighth Annual International Bridge Conference, Pittsburgh, Pennsylvania, June 1991.
- [23] Weischedel, H.R. "Electromagnetic Wire Rope Inspection: Signal Generation, Filtering, and Computer-Aided Rope Evaluation." Presented at The Nondestructive Testing of Rope. Krakow, Poland: (O.I.P.E.E.C.) International Organization for the Study of the Endurance of Wire Rope. (September 1999)

- [24] Weischedel, H.R. "The Inspection of Mine Hoist Ropes." Wire Rope News & Sling Technology. Vol. 12, No. 5. Colonia, NJ, VS Enterprises (June 1991), p 14-25.
- [25] H.R.Weischedel, "Crane Wire Rope Damage and Nondestructive Inspection Methods," Wire Rope News & Sling Technology, Vol. 25, No. 2, 2003.
- [26] H.R.Weischedel, "The Magnetic Flux Leakage Inspection of Wire Ropes," *Nondestructive Testing Handbook, Electromagnetic Testing*, Third Edition, Volume 4, 2004

Publications and Patents on Power Electronics

- [27] H.R.Weischedel, "Universal Power Waveshape Synthesizer Module," Final Report, NDT Technologies, Inc., Contract N0024-86-C-5510 Naval Sea Systems Command, 30 December 1987.
- [28] H.R.Weischedel, "DC-to-400Hz Inverter," Final Report, NDT Technologies, Inc., Contract NAS 9-17944, NASA Lyndon B.Johnson Space Center, 28 August 1988.
- [29] H.R.Weischedel, "Power Amplification for Underwater Electroacoustic Transducers," Final Report, NDT Technologies, Inc., Contract N61331-88-C-0028, Naval Coastal Systems Center, Panama City, FL, 20 February 1989.
- [30] H.R.Weischedel, "An Application of Frequency Entrainment in a DC-to-DC Converter," IEEE Transactions on Industry Applications, Vol. IA-8, No. 4, July/August, 1972.
- [31] H.R.Weischedel, "An Exact Method for the Analysis of Limit Cycles in On-Off Control Systems," IEEE Transactions on Automatic Control, Vol. 18, No. 1, February, 1973.
- [32] H.R.Weischedel, G.R.Westerman, "A Dual-Output DC Power Converter," Automatica, Vo. 9, 1973, pp. 481-489.
- [33] H.R.Weischedel, "Noise Problems Caused by Common-Mode Ground Currents from DC Converters," Technical Memorandum 35790-22, November 27, 1973, Bell Laboratories.
- [34] H.R.Weischedel, G.R.Westerman, "A Symmetry Correcting Pulsewidth Modulator for Power Conditioning Applications," IEEE Transactions on Industry Applications, Vol. IA-9, No. 3, May/June, 1973.
- [35] H.R.Weischedel, "Stability Analysis of Pulsewidth Modulator Controlled Power Converters," Control in Power Electronics and Electrical Drives, Vol. 1, IFAC Symposium, Düsseldorf, October 1974, pp. 87-104.
- [36] H.R.Weischedel, G.R.Westerman, "Self-Oscillating Constant Frequency Switching Regulator with Phase Control of Voltage Regulation Loop," U.S. Patent 3,665,291, 1972 (assigned to Bell Laboratories).
- [37] H.R.Weischedel, G.R.Westerman, "Dual-Output Regulated Switching Power Supply," U.S.Patent 3,671,853, 1972 (assigned to Bell Laboratories).

- [38] H.R.Weischedel, G.R.Westerman, "Synchronized Self-Oscillating Switching Regulator," U.S.Patent 3,676,899, 1972 (assigned to Bell Laboratories).
- [39] H.R.Weischedel, G.R.Westerman, "Regulated Converter Circuit with Pulse-Width Modulation Circuit Using Passive Components," U.S.Patent 3,741,973 (assigned to Bell Laboratories).
- [40] H.R.Weischedel, G.R.Westerman, "Converter Circuit with Correction Circuitry to Maintain Signal Symmetry in the Switching Devices," U.S.Patent 3,870,943, 1975 (assigned to Bell Laboratories).

Publications and Patents on Control Systems Theory and Applications

- [41] H.R.Weischedel, "On the Synthesis of Optimal Controls for Linear Dynamic Systems" (in German), Doctoral Dissertation, Technische Universität Berlin, 1967.
- [42] H.R.Weischedel, "Minimum Effort Controls for Discrete Multivariable Systems," IFAC Symposium on Multivariable Control Systems, Düsseldorf, 1968.
- [43] H.R.Weischedel, "A Solution of the Discrete Minimum-Time Control Problem," Journal of Optimization Theory and Applications, Vol. 5, No. 2, 1970.
- [44] H.R.Weischedel, "Method for Compensation of Oscillations in Aircraft Control Systems," German Patent 1 217 214, 1966.
- [45] H.R.Weischedel, "Constant Tension Spooling Device for Wire Rope and Cable," Final Report, NDT Technologies, Inc., Contract N00167-87-C-0026, David Taylor Research Center, Annapolis, MD, 22 February 1988.
- [46] H.R.Weischedel, "Stability Problems of Power Factor Compensated Induction Motors" (in German), Diplom-Ingenieur Thesis, Universität Stuttgart, 1958.
- [47] H.R.Weischedel, "A Study of Tie-Line Power Control Problems," Master Thesis, University of Washington, 1962.
- [48] G.Schweizer, H.Seelmann, H.Weischedel, "Control of VTOL Aircraft in Hovering Flight" (in German), Yearbook 1963 of the W.G.L.R., Vieweg Braunschweig, 1964.
- [49] H.R.Weischedel, "Optimization of Linear Time-Varying Control Systems by Using Pontryagin's Maximum Principle" (in German), Regelungstechnik 11, 1964.