

## **CURRICULUM VITAE**

*Dan Censor*

### Personal Data

Place and date of birth:

Israel (British mandate Palestine-Eretz Israel), February 21, 1936.

Marital status:

Wife - Dalia Censor, son - Tslil Censor, born 1969.

Military service:

1954-1959: Israel Defense Forces, including two years as a regular.

1967: Active service, Six Days War.

1973-1974: Active service, Yom Kipur War.

1982: Active service, Peace for Galilee War.

1959-1987: Yearly active reserve duty.

1987: Discharge from active reserve duty.

### Academic Education and Degrees

1957-1962: Undergraduate studies in the Faculty of Electrical Engineering,  
Technion - Israel Institute of Technology, Haifa, Israel.

1962: B.Sc.(E.E.), Cum Laude.

1962-1967: Graduate studies at the Faculty of Electrical Engineering,  
Technion - Israel Institute of Technology, Haifa, Israel.

1963: M.Sc.(E.E.). Thesis: "Topology of Active Networks", supervised by  
Professor Amos Nathan, Technion - I.I.T.

1967: D.Sc.(Technology). Thesis: "Scattering in Velocity Dependent  
Systems", supervised by Professor Victor Twersky, Department of  
Mathematics, University of Illinois at Chicago Circle, Chicago, Illinois.

## Languages

Hebrew: Speaking, reading, writing

English: Speaking, reading, writing.

German: Speaking, reading, rudimentary writing

## Professional Occupation - Duties and Ranks

1955-1959: Electronics technician and instructor of electronics, Israel Air Force Technical Academy, Haifa. Sergeant-Major.

1962-1963: Teaching at the Faculty of Electrical Engineering, Technion-I.I.T., Haifa. Teaching Assistant.

1967-1969: Teaching and research in the Department of Information Engineering, University of Illinois at Chicago Circle, Chicago, Illinois. Assistant Professor.

1969-1975: Teaching and research in the Department of Environmental Sciences (later renamed Geophysical and Planetary Sciences), Tel Aviv University, Ramat Aviv, Tel Aviv. Tenured Senior Lecturer.

1975-1976: Teaching and Research in the Institute of Theoretical Physics, University of Düsseldorf, Germany. Gastdozent (Visiting Lecturer).

1976-1982: Teaching and research in the Department of Electrical and Computer Engineering (formerly: Department of Electrical Engineering), Ben-Gurion University of the Negev, Beer Sheva, Israel. Tenured Associate Professor.

1979-1980: Undergraduate and graduate teaching, and research, in the Department of Electrical Engineering and Computer Science (formerly: Applied Physics and Information Science), University of California, San Diego, La Jolla, California. Visiting Associate Professor.

1980-1981: Research at NASA Goddard Space Flight Center, Greenbelt, Maryland. National Academy of Sciences NRC Senior Research Associate.

1982-1985: Teaching and research in the Department of Electrical and Computer Engineering, Ben Gurion University of the Negev. Tenured Full Professor of Electrical Engineering.

1985-1987: Research and teaching, Department of Electrical and Computer Engineering, and Biomedical Engineering and Science institute, Drexel University, Philadelphia, Pennsylvania. Visiting Professor.

1993: Department of Physics, La Trobe University, Bundoora, Melbourne, Australia, Distinguished Visiting Fellow, supported by the CRA (Conzinc Riotinto Australia) consortium and La Trobe University.

1994-1995: Department of Electrical and System Engineering, University of Connecticut, Storrs, Connecticut, Visiting Professor.

1987-2004: Teaching and research in the Department of Electrical and Computer Engineering, Ben Gurion University of the Negev. Tenured Full Professor of Electrical Engineering.

1999: Visiting Professor, Electromagnetics Laboratory, Helsinki University of Technology, Espoo (Otaniemi), Finland.

2000: Department of Electrical and Computer (formerly- System) Engineering, University of Connecticut, Storrs, Connecticut, Visiting Professor. Participating in a research on polarimetric ocular glucometry.

2004-2006: Research leave of absence, Department of Electrical and Computer Engineering, Ben Gurion University of the Negev.

Since 2006: Professor Emeritus, Department of Electrical and Computer Engineering, Ben Gurion University of the Negev.

#### Special Professional Activity

1967-1969: Limited Standing, later Master Standing, Graduate School, University of Illinois at Chicago Circle, Chicago, Illinois.

1968-1969: Summer academic quarters, Research with Professor Victor Twersky on an NSF grant, University of Illinois at Chicago Circle, Chicago, Illinois.

1969-1972: In charge of the Departmental Colloquium on Continuum and Wave Theory. Department of Environmental Sciences, Tel Aviv University.

1970-1975: Chairman of the Departmental Committee for Doctoral Studies and Students. Department of Environmental Sciences, Tel Aviv University. 1970: Secretary of the XII Israel Annual Conference on Aeronautics and Astronautics.

1971: Recipient of a research grant from the Bat-Sheva de Rothschild Fund for the Advancement of Science and Technology, for research on theoretical wave propagation problems.

1971: Member of the Organizing Committee, XIII Israel Annual Conference on Aeronautics and Astronautics.

1972: Member of the Editorial Committee, XIV Israel Annual Conference on Aeronautics and Astronautics.

1972: Recipient of a research grant from the Office of the Chief Scientist, Ministry of Defense, for research on electromagnetic wave propagation problems.

1972: Collaborating on a research grant from the Ministry of Development, on problems in prospecting geophysics.

1972: Member of the Editorial Committee, XV Israel Annual Conference on Aeronautics and Astronautics.

1975: Recipient of an Alexander von Humboldt Fellowship, waived in favor of a university salary, at the University of Düsseldorf, Düsseldorf, Germany.

1975: Member of the Colloquium Committee, Institute of Theoretical Physics, University of Düsseldorf.

1976-2006: Member of the Ben Gurion University Senate.

1976-1977: Member of the Faculty Library Committee, Ben Gurion University.

1976-1978: Chairman of the Court of Appeals for Student Discipline, Ben Gurion University.

1976-1979: Member of the Board of Directors, Beer Sheva College of Technology.

1976-2006: Member, Committee for Appointments and Promotions, Department of Electrical and Computer Engineering, Ben Gurion University.

1977-1979: Head, Department of Electrical and Computer Engineering, Ben Gurion University.

1979: Collaborating on a research grant from the Ministry of Defense, concerning electro-acoustical devices.

1977-1978: Member of the Committee for Public Tenders, Ben Gurion University.

1978-1979: Coordinator of Studies of Army Personnel, and in charge of a special study programs for Air Force students, Ben Gurion University.

1978-1979: Member of the Organizing Committee, The IEEE XI Convention of Electrical and Electronic Engineers in Israel.

1979: Guest Lecturer, Oregon Graduate Center, Wlverton, Oregon.

1980: Guest Lecturer, Department of Physics, Yale University, New Haven, Connecticut.

1981: Guest Lecturer at the meeting of the Washington DC chapter of the IEEE Antennas, Propagation and Scattering Society.

Since 1981: Founding Member, Israel National Committee of URSI (International Union of Radio Science).

- 1981-1985: Israel's delegate to Commission B of URSI, and Chairman of URSI National Commission B (Fields and Waves). Appointed by the Israel Academy of Sciences and Humanities.
- 1981-1983: Chairman of the Department of Electrical and Computer Engineering Committee for Students Academic Affairs, and Member of the same committee of the Faculty of Engineering Sciences, Ben Gurion University.
- 1981-1983: Academic Counselor for Air Force students, Ben Gurion University.
- 1981-1983: Appointed by the Senate as Member of the Faculty of Engineering Sciences Committee for Appointments and Promotions of the Ben Gurion University.
- 1981-1985: Member of the Curriculum Committee of the Department of Electrical and Computer Engineering, Ben Gurion University.
- 1982: Co-organizer (with Commission G) of URSI National Meeting on Fields and Waves, July 5, 1982, Technion I.I.T., Haifa, Israel.
- 1982: Invited participant and lecturer, NSF-CBMF Research Conference on Nonlinear Waves and Integrable Systems, East Carolina University, Greenville, North Carolina, June 22-26, 1982.
- 1982-1983: Member of the Editorial Committee, The IEEE XIII Convention of Electrical and Electronics Engineers in Israel.
- 1982-1983: Member of the Technical Program Committee, 1983 URSI International Symposium on Electromagnetic Theory, Santiago de Compostela, Spain.
- 1983: Member of the Ad-hoc Committee for the Election of the Faculty Dean, Faculty of Engineering Sciences, Ben Gurion University.
- 1983: Invited Lecturer, The IEEE XIII Convention of Electrical and Electronics Engineers in Israel.

- 1983: Invited Guest Professor to the Department of Electrical Engineering, Universita di Napoli and IRECE (Institute of Research in Electromagnetic and Electronic Components), Naples, Italy.
- 1983: Co-organizer (with Commission G) of URSI National Meeting on Wave Propagation and Radiating Systems, June 27, 1983, Ben Gurion University, Beer Sheva.
- 1984: Invited Lecturer, Nuclear Research Center, Dimona, Israel.
- 1984-1985: Member, Technical Committee, The IEEE XIV Convention of Electrical and Electronics Engineers in Israel.
- 1985-1987: Recipient of the Louis and Bessie Stein Family Foundation Fellowship.
- 1986: Invited Lecturer, Moore School of Electrical Engineering, University of Pennsylvania, Philadelphia.
- 1987: Invited Lecturer, Dept EECS Polytechnic Institute of New York, Farmingdale, NY.
- 1987-1990: In charge of departmental weekly colloquium committee, the Department of Electrical and Computer Engineering, Ben Gurion University.
- 1987-1988: Representative of the Ben Gurion University to the Israel Institute of Standards, Committee on Electromagnetic Compatibility.
- 1987-1992: Appointed by the Senate of the Ben Gurion University of the Negev as Chairman of The Court for Students Discipline.
- 1987-1993: Member of the Faculty of Engineering Sciences Committee for Graduate Studies, and Chairman of the Department of Electrical and Computer Engineering Committee for Graduate Studies.
- 1988-1993: Member of the Department of Electrical and Computer Engineering Committee for Academic Affairs of Undergraduate Students.

1988-1993: Member of the Department of Electrical and Computer Engineering Curriculum Committee.

1988-1993: In charge of the departmental Program of Electromagnetic Radiation Engineering.

1988-1989: Member, Technical Committee, The IEEE XVI Convention of Electrical and Electronics Engineers in Israel.

1988: Invited Lecturer, Department of Electrical and Computer Engineering, Drexel University, Philadelphia.

1988: Chairman of the Ad-hoc Committee for the Election of the Faculty Dean, Faculty of Engineering Sciences, Ben Gurion University.

Since 1989: Member of the URSI Israel National Committee Auditing Committee.

1989-1993: Elected by the Senate of the Ben Gurion University as Member of the Committee for Appointments and Promotions in the Faculty of Engineering Sciences.

1989: Invited lecturer, Tel Aviv University, late Prof. Kisluk Memorial lectures.

1989: Invited Lecturer, Fraunhofer Institut für zerstörungsfreie Prüfverfahren (Izfp), University of Saarbrücken, Germany.

1989: Invited Lecturer, Schlumberger-Doll Research Center, Ridgefield, Connecticut.

Since 1990: Member of International Editorial Board, Journal of ElectroMagnetic Waves and Applications (JEMWA) and Progress in Electromagnetic Research (PIER).

1989-1990: Chairman of the Ad-hoc Committee for Elections of the Rector (Chancellor), Ben Gurion University.

Since 1990: Member of The MIT Electromagnetics Academy.

1990-1991: Member of the Technical Committee, and in charge of papers in the area of Antennas and Wave Propagation, The IEEE XVII Convention of Electrical and Electronics Engineers in Israel, Tel Aviv, March 1990.

1990-1991: Chairman of the Ad-hoc Committee for the Election of the Faculty Dean, Faculty of Engineering Sciences, Ben Gurion University.

1992: Invited Lecturer, Schlumberger-Doll Research Center, Cambridge, United Kingdom.

1992: Invited Lecturer, Department of Electrical Engineering, University of Queensland, Brisbane, Australia.

1992: Recipient of the Polish-Jewish Ex-Servicemen Association - London, Annual Prize for distinguished scientists in the field of Applied Electronics.

1992-1993: Chairman of the Ad-hoc Committee for the Election of the Faculty Dean, Faculty of Engineering Sciences, Ben Gurion University.

1993: Recipient of the La Trobe-CRA Distinguished Visiting Fellowship.

1993: Invited Lecturer, Workshop on Trends in Electromagnetics and Wave Theory, Department of Electrical Engineering, Tel Aviv University.

1993: Distinguished Visiting Fellow, supported by the CRA (Conzinc Riotinto Australia) consortium and La Trobe University, Bundoora (Melbourne), Australia.

1993: Invited Lecturer, Space Physics Laboratory, Department of Physics, La Trobe University, Bundoora (Melbourne), Australia.

1993: Invited Lecturer, Department of Physics, La Trobe University, Bundoora (Melbourne), Australia.

1993: Invited Lecturer, Defense Science and Technology Organization (DSTO), Surveillance Research Laboratory, Salisbury (Adelaide), Australia.

1993: Invited Lecturer, Department of Electrical and Computer Systems Engineering, Monash University, Clayton (Melbourne), Australia.

1993-1994: Chairman of the Professional Committee for Research Grants in Electrical Engineering, Israel Science Foundation (administered by The Israel Academy of Sciences and Humanities).

1993-1994: Member of the Professional Committee for Equipment Acquisition Grants in Engineering, Israel Science Foundation (administered by The Israel Academy of Sciences and Humanities).

1993-1994: Member of the Ben Gurion University of the Negev ad-hoc Committee for Amendment of the Bylaws Regarding the University's Supreme Appointment and Promotion Committee.

1994-2002: Representative of the Ben Gurion University to the Board of Governors of the Israeli Institute of Standards.

1994: Invited Lecturer, Department of Electrical and Systems Engineering, University of Connecticut, Storrs, Connecticut.

1994: Invited Lecturer, Department of Judaic Studies, University of Connecticut, Storrs, Connecticut.

1995: Biomedical research on Ultrasound Doppler and noninvasive polarimetric optical methods for measuring body glucose concentration. Supported by the Department of Electrical and Systems Engineering, University of Connecticut, Storrs, Connecticut.

1995-1999: Member of the Faculty of Engineering Sciences Committee for Graduate Studies, and Chairman of the Department of Electrical and Computer Engineering Committee for Graduate Studies.

1996: Invited Lecturer, Schlumberger-Doll Research Center, Ridgefield, Connecticut.

1996: Invited Lecturer, Department of Radiology, University of Houston Medical Center, Ultrasonics Laboratory, Houston, Texas.

1996: Invited Lecturer, Department of Electrical and Systems Engineering, University of Connecticut, Storrs, Connecticut.

- 1996: Member of the Technical and Scientific Committee, and in charge of papers on General Topics, The IEEE XIX Convention of Electrical and Electronics Engineers in Israel, Jerusalem, November 5-6, 1996.
- 1996: Invited Lecturer, Siemens AG, Corporate Research and Development Systems Technologies Components and Devices, Laboratory for Ultrasound, Munich, Germany.
- 1996-1998: Appointed by the Senate of the Ben Gurion University of the Negev as Chairman of The Court for Students Discipline.
- 1996: Invited Lecturer, Department of Biophysical Engineering and Electronics, University of Genoa, Electromagnetic Laboratory.
- 1998-2006: Thesis Advisor Standing in the Interdisciplinary Unit for Biomedical Engineering, Ben Gurion University of the Negev.
- 1998: Chairman, ad-hoc Election Committee for the Academic Staff Union.
- 1999: Invited Lecturer, Department of Geophysics and Planetary Sciences, Tel-Aviv University.
- 1999-2000: Member of the Professional Committee for Research Grants in Electrical Engineering, Israel Science Foundation (administered by The Israel Academy of Sciences and Humanities).
- 1999-2002: Chairman of the Curriculum Committee of the Department of Electrical and Computer Engineering, Ben Gurion University.
- 1999: Invited Lecturer, Department of Mechanical Engineering, Ben Gurion University.
- 2000: Invited Lecturer, Department of Engineering Science and Mechanics, Pennsylvania State University, State College.
- 2000: Invited Lecturer, Department of Philosophy, Hebrew University, Jerusalem.

2001: Invited Lecturer, Department of Physics, Imperial College, London, UK.

2001: Panel Moderator, in the conference: Complex Mediums II: Beyond Linear Isotropic Dielectrics (AM220), *Part of SPIE's International Symposium on Optical Science and Technology*, 29 July–3 August 2001, San Diego, California USA.

2001: Panel Moderator, "Trends in the theory of non-linear partial differential equations" in the conference: 12<sup>th</sup> International Colloquium on Differential Equations, Plovdiv, Bulgaria, August 18-23, 2001.

2001: Invited Lecturer, Division of Telecommunications, Department of Electrical and Computer Engineering, Aristotle University, Thessaloniki, Greece.

2001-2005: Senate appointed Member in the Senate Sub-Committee for Appointments and Promotions of the Faculty of Natural Sciences, Ben Gurion University.

2002: Invited Lecturer, Department of Chemical Engineering, University of Patras, and Foundation for Research and Technology, Hellas, Institute of Chemical Engineering and High Temperature Chemical Processes, Patras, Greece.

2002-2005: Chairman of the Sub-Committee (of the Departmental Committee for Appointments and Promotions) for Appointment and Evaluation of Adjunct Staff.

2003: Invited Lecturer, Department of Electronics Engineering, Isik University, Istanbul, Turkey.

2003: Invited Lecturer, Department of Electronics Engineering, Gebze Institute of Technology, Gebze, Turkey.

2003: Invited Lecturer, Department of Electrical Engineering University of Hawaii, Honolulu, Hawaii.

2003-2005: Senate representative in the Appeal Disciplinary Court for Academic Staff.

2003: Invited Lecturer , 6<sup>th</sup> International Workshop on Mathematical Methods in Scattering theory and Biomedical Engineering, Monastery of Rogovos, Tsepelovo, organized by the University of Ionnina, Greece.

2004: Invited Lecturer, The 30<sup>th</sup> International Conference on Applications of Mathematics in Engineering and Economics, Sozopol, Bulgaria, June 7-12, 2004, organized by the Department of Applied Mathematics and Informatics, Technical University Sofia, Sofia, Bulgaria.

2004: Invited Lecturer, Department of Informatics and Telecommunication, University of Trento, Trento, Italy.

2004: Invited Lecturer, Department of Engineering, University of Sannio at Benevento, Benevento, Italy.

2004: Invited Lecturer, Department of Information and Electrical Engineering, University of Salerno, Italy.

2004: Invited Lecturer, Department of Electrical Engineering and Computers, University of Porto, Porto, Portugal.

2004: Invited Lecturer, Department of Physical Electronics, School of Electrical Engineering, Faculty of Engineering, Tel-Aviv University.

2005: Invited Lecturer, The 31<sup>th</sup> International Conference on Applications of Mathematics in Engineering and Economics, Sozopol, Bulgaria, June 5-10, 2005, organized by the Department of Applied Mathematics and Informatics, Technical University Sofia, Sofia, Bulgaria.

2005: Invited Lecturer, Sts. Cyril and Methodius University, faculty of natural sciences and mathematics, institute of physics, Skopje, Macedonia

2005: member, ad-hoc committee for retirees equipment, appointed by the rector,

- 2005: Invited Lecturer, Department of Physics, Imperial College, London, UK.
- 2006: Invited Lecturer, Department of Electrical Engineering and Telecommunications Technology, CUNY—New York City College of Technology, Brooklyn, NY.
- 2006: Member of the Scientific Committee, EWS – 2006, IV. International Workshop on Electromagnetic Wave Scattering. Gebze, Turkey.
- 2006: Invited Lecturer, The 6<sup>th</sup> General Conference of the Society of Physicists of the Republic of Macedonia (SPRM), Ohrid, Macedonia.
- 2008: Invited Lecturer, The 6<sup>th</sup> General Conference of the Society of Physicists of the Republic of Macedonia (SPRM), Ohrid, Macedonia.
- 2008: Member Technical Committee, V<sup>th</sup> International Workshop on Electromagnetic Wave Scattering, EWS2008, Akdeniz University, Antalya, Turkey, October 22-25, 2008.
- 2008: Member Technical Committee, PIERS--Progress In Electromagnetics Research Symposium, Moscow, Russia, 18-21 August, 2009.
- 2009: Invited Lecturer, Department of Physical Electronics, School of Electrical Engineering, Faculty of Engineering, Tel-Aviv University.

Miscellaneous:

Member and Chairman of numerous Professional Committees for Appointment, Tenure, and Promotion in Ben Gurion University of the Negev, Tel Aviv University, Center for Technological Education, Holon, Israel URSI Committee (details confidential).

Reviewer of numerous papers in:

Israel Journal of Technology.

Journal of Mathematical Physics.

Journal of Sound and Vibration.

JASA--Journal of the Acoustical Society of America.

Physical Review A.

Physical Review B.

Physical Review Letters.

Radio Science.

IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control.

IEEE Transactions on Antennas, Propagation and Scattering.

IEEE Transactions on Microwave Theory and Techniques.

IEEE Transactions on Biomedical Engineering.

JEMWA, Journal of Electromagnetic Waves and Applications.

Special volume of Advances in Thermodynamics series ((Vol. 3, 1991).

Journal of Vibration and Acoustics of ASME (American Society of Mechanical Engineers).

European Journal of Physics.

JOSA--Journal of the Optical society of America.

QJMAM--Quarterly Journal of Mechanics and Applied Mathematics.

Referee for the Professional Committee for Research Grants in Electrical Engineering, and the Professional Committee for Equipment Acquisition Grants in Engineering, both belonging to the Israel Science Foundation (administered by The Israel Academy of Sciences and Humanities).

Referee for the Research Grants Council (RGC) of Hong Kong.

Referee for the BSF—US Israel Binational Science Foundation.

### List of Publications

1. "Detection of the transverse Doppler effect with laser light", Proceedings IEEE, Vol. 52, p. 987, 1964.
2. With J.E. Burke and V. Twersky, "Exact inverse separation series for multiple scattering in two dimensions", Journal of the Acoustical Society of America, Vol. 37, pp. 5 - 13, 1965.
3. With A. Nathan, "Topological rules for linear networks and their application", IEEE Transactions on Education, Vol. E-10, pp. 167 - 171, 1967.
4. "Relativistic Doppler broadening diagnostics", IEEE Transactions on Nuclear Science, Vol. NS-15, pp. 27 - 30, 1968.
5. "First order propagation in moving media", IEEE Transactions on Microwave Theory and Techniques, vol MTT-16, pp. 565 - 566, 1968.
6. With A. Nathan, "Extended  $\nabla$  relations with reference to e.m. waves in moving simple media", IEEE Transactions on Microwave Theory and Techniques, Vol. MTT-16, pp. 883 - 884, 1968.
7. "Scattering of a plane wave at a plane interface separating two moving media", Radio Science, Vol. 4, pp. 1079 - 1088, 1969.
8. "Propagation and scattering in radially flowing media", IEEE Transactions on Microwave Theory and Techniques, Vol. MTT-17, pp. 374 - 378, 1969.
9. "Scattering of electromagnetic waves by a cylinder moving along its axis", IEEE Transactions on Microwave Theory and Techniques, Vol. MTT-17, pp.154 - 158, 1969.
10. "On Doppler broadening in velocity dependent random media", Israel Journal of Technology, Vol. 8, pp. 395 - 406, 1970.
11. "Scattering of electromagnetic waves in uniformly moving media", Journal of Mathematical Physics, Vol. 11, pp. 1968 - 1976, 1970.

12. "A note on angular representation for scattered waves", Quarterly of Applied Mathematics, Vol. 29, pp. 319 - 325, July 1971.
13. "Energy balance and radiation forces for arbitrary moving objects", Radio Science, Vol. 6, pp. 903 - 910, 1971.
14. "Propagation and scattering of sound waves in moving media", Israel Journal of Technology, Vol. 8, pp. 7 - 17, 1971.
15. With J. Aboudi, "Scattering of sound waves by rotating cylinders and spheres", Journal of Sound and Vibration, Vol. 19, pp. 437 - 444, 1971.
16. With M. Schoenberg, "The problem of energy concentration on a rapidly wound cable", Israel Journal of Technology, Vol. 9, pp. 531 - 534, 1971.
17. "Scattering in velocity dependent systems", Radio Science, Vol. 7, pp. 331 - 337, 1972.
18. "Interaction of electromagnetic waves with irrotational fluids", Journal of the Franklin Institute, Vol. 293, pp. 117 - 129, 1972.
19. With J. Aboudi and D. Neulander, "Reflection and transmission of elastic waves by a moving slab", Applied Scientific Research, Vol. 25, pp. 313 - 326, 1972.
20. With J. Aboudi, "Scattering of elastic waves by moving objects", Journal of the Acoustical Society of America, Vol. 52, pp. 203 - 209, 1972.
21. "Velocity dependent multiple scattering by two thin cylinders", Radio Science, Vol. 7, pp. 949 - 954, 1972.
22. "Scattering by time varying obstacles", Journal of Sound and Vibration, Vol. 25, pp. 101 - 110, 1972.
23. "Velocity effects in scattering from expanding bubbles", Journal of Sound and Vibration, Vol. 21, pp. 379 - 385, 1972.

24. With M. Schoenberg, "Velocity dependent reflection, refraction and scattering of elastic shear waves in the presence of a lubricating layer", Journal of the Acoustical Society of America, Vol. 53, pp. 508 - 513, 1973.
25. With M. Schoenberg, "Elastic waves in rotating media", Quarterly of Applied Mathematics, Vol. 31, pp. 115 - 125, 1973.
26. "The generalized Doppler effect and applications", Journal of the Franklin Institute, Vol. 295, pp. 103 - 115, 1973.
27. "Scattering from expanding systems", Israel Journal of Technology, Vol. 11, pp. 109 - 115, 1973.
28. With M. Schoenberg, "Two dimensional wave problems in rotating elastic media", Applied Scientific Research, Vol. 27, pp. 401 - 414, 1973.
29. Comments on "Scattering by time varying obstacles", Author's reply, Journal of Sound and Vibration, Vol. 28, pp. 766 - 768, 1973.
30. With J.J. Brandstatter, "Eikonal equation for moving media and its relation to dynamic programming", Proceedings of the IEEE, Vol. 62, pp. 400-401, 1974.
31. With Z. Alterman, A. Ginzburg and M. Schoenberg, "The poor man's seismic source, a computer game", Geophysical Prospecting, Vol. 22, pp. 261 - 271, 1974.
32. With J.J. Brandstatter, "Generalized Doppler effect for time varying media", Journal of the Franklin Institute, Vol. 297, pp. 485 - 490, 1974.
33. With Z. Levin, "Electrostatic interaction of axi-symmetric liquid and solid aerosols", Atmospheric Environment, Vol. 8, pp. 905-914, 1974.
34. "The group Doppler effect", Journal of the Franklin Institute, Vol. 299, pp. 333 - 338, 1975.
35. With J.J. Brandstatter, "Conservation and balance equations for waves in dissipative media", Applied Scientific Research, Vol. 30, pp. 291 - 303, 1975.

36. "Ray tracing in weakly nonlinear moving media", *Journal of Plasma Physics*, Vol. 16, pp. 415 - 426, 1976.
37. "Uniqueness of solutions to Suchy's ray equations for absorbing media", with comments by K. Suchy, *Proceedings IEEE*, Vol. 64, pp. 1731 - 1732, 1976.
38. "Reflection mechanisms, Doppler effect and special relativity", *Proceedings IEEE*, Vol. 65, p. 572, 1977.
39. "Fermat's principle and real space-time rays in absorbing media", *Journal of Physics A*, Vol. 10, pp. 1781 - 1786, 1977.
40. "Space-time considerations for Doppler effects in inhomogeneous time varying media", *Il Nuovo Cimento*, Vol. 42B, pp. 198 - 204, 1977.
41. Reply to J.A. Bennett, "Nonuniqueness of "real ray" equations when the ray direction is complex", *Proceedings IEEE*, Vol. 65, pp. 1599 - 1601, 1977.
42. "Ray theoretic analysis of spatial and temporal self-focusing in general weakly nonlinear media", *Physical Review A*, Vol. 16, pp. 1673 - 1677, 1977.
43. "Application-oriented ray theory", *Intl. Journal of Electrical Engineering Education*, Vol. 15, pp. 215-223, 1978.
44. "Diffusivity measurement method based on the concept of group velocity", *International Journal of Heat and Mass Transfer*, Vol. 21, pp. 813 - 814, 1978.
45. "Ray propagation and self focusing in nonlinear absorbing media", *Physical Review A*, Vol. 18, pp. 2614 - 2617, 1978.
46. Reply to D.G. Ashworth and P.A. Davies, "Reflection from a corner reflector moving at high velocity", *Proceedings IEEE*, Vol. 66, pp. 1653 - 1654, 1978.
47. "Geometrical mechanics for particles in dissipative systems", *Physical Review D*, Vol. 19, pp. 1108 - 1111, 1979.
48. With A. Plotkin, "Real ray tracing in an unmagnetized absorptive ionosphere", *Israel Journal of Technology*, Vol. 18, pp. 319 - 325, 1980.

49. "Dispersion equations in moving media", Proceedings IEEE, Vol. 68, pp. 528 - 529, 1980.
50. "Nonlinear wave mechanics and particulate self-focusing", Foundations of Physics, Vol. 10, pp. 555-566, 1980.
51. With D.M. LeVine, "A proposed method for wind velocity measurement from space", NASA TM 82053, Nov. 1980.
52. "Alternative method for ray propagation in absorptive media", Proceedings IEEE, Vol. 69, pp. 750 - 751, 1981.
53. "Wave packets and localized pulses", Physical Review A, Vol. 24, pp. 1452 - 1459, 1981.
54. "The Doppler effect for scattering by plane boundaries at normal incidence", IEEE Transactions on Antennas Propagation and Scattering, Vol. AP-29, p. 825, 1981.
55. "A dual approach for wave packets and solitary waves in nonlinear systems", Physical Review A, Vol. 25, pp. 437 - 447, 1982.
56. "The duality of wave packets and solitary waves in absorptive systems", Alta Frequenza, Vol. 52, pp. 468 - 475, 1983.
57. "Scattering by weakly nonlinear objects", SIAM Journal of Applied Mathematics, Vol. 43, pp. 1400 - 1417, 1983.
58. With B.-Z. Kaplan, Book Review on "The Handbook of Antenna Design", Vol. 1, Computer Methods in Applied Mechanics and Engineering, Vol. 40, pp. 121 - 123, 1983.
59. With D.M. LeVine, "The Doppler effect - now you see it, now you don't", Journal of Mathematical Physics, Vol. 25, pp. 309 - 316, 1984.
60. "Theory of the Doppler effect - fact, fiction and approximation", Radio Science, Vol. 19, pp. 1027 - 1040, 1984.

61. "Harmonic and transient scattering from time varying obstacles", Journal of the Acoustical Society of America, Vol. 76, pp. 1527 - 1534, 1984.
62. "Electromagnetic scattering by harmonically excited expanding surfaces and related complex resonances", Radio Science, Vol. 20, pp. 25 - 34, 1985.
63. "Waveguide and cavity oscillations in the presence of nonlinear media", IEEE Transactions on Microwaves theory and techniques, Vol. *MTT-33*, pp. 296-301, 1985.
64. "Reply to "Comments on 'Harmonics and transient scattering from time varying obstacles'", Journal of the Acoustical Society of America, Vol.79, pp. 179 - 180, (comments), pp. 181 - 182 (reply), 1986.
65. With J. Molcho, "A simple derivation and a classroom example for Hamiltonian ray propagation", American Journal of Physics, Vol. 54, pp. 351 - 353, 1986.
66. "Theoretical considerations for time dependent transient scattering", Radio Science, Vol. 21, pp. 192-202, 1986.
67. "Harmonic and transient scattering from weakly nonlinear objects", Radio Science, Vol. 22, pp. 227 - 233, 1987.
68. "Electromagnetic propagation and scattering in space-time dependent media", Physical Review A, Vol. 35, pp. 2869 - 2877, 1987.
69. With V.L. Newhouse, J.A. Cisneros, T. Vontz, and B. Goldberg, "Ultrasound Doppler probing of flows transverse with respect to beam axis", IEEE Transactions on Biomedical Engineering, Vol. *BME-34*, pp. 779 - 789, 1987.
70. "Acoustical Doppler effect analysis - is it a valid method?", Journal of the Acoustical Society of America, Vol. 83, pp. 1223-30, 1988.
71. Book Review: "The Handbook of Antenna Design", Vol. 2, by A. W. Rudge, K. Milne, A.D. Olver, P. Knight, IEE Electromagnetic Series, Vol. 16, Peter Peregrinus, 1983. Computer Methods in Applied Mechanics and Engineering, Vol. 63, pp. 211 - 212, 1987.

72. With G. Yu and V.L. Newhouse, “On coherent radiation scattered by random ensembles”, *Journal of Sound and Vibration*, Vol. 122, pp. 399 - 412, 1988.
73. “The Huygens principle and Doppler effect in the presence of time-dependent surfaces”, *Journal of Electromagnetic Waves and Applications*, Vol. 3, 635 - 649, 1989.
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85. With I. Gurwich, “Existence problems in steady state theory for electromagnetic waves in weakly nonlinear media”, *JEMWA—Journal of Electromagnetic Waves and Applications*, Vol. 9, pp. 1115-1139, 1995.
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113. "Non-relativistic boundary conditions and scattering in the presence of arbitrarily  
moving media and objects: cylindrical problems", PIER-Progress In  
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Science*, ed. A. Scott, Routledge, a division of Taylor and Francis,  
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120. With Iani Arnaoudov and George Venkov, "Differential-operators for circular and elliptical wave-functions in free-space relativistic scattering", JEMWA— Journal of Electromagnetic Waves and Applications, Vol. 19, pp. 1251-1266, 2005
121. "Broadband spatiotemporal differential-operator representations for velocity-dependent scattering", PIER—Progress In Electromagnetic Research, Vol. 58, pp. 51-70, 2006.
122. "The Method of Images in Velocity Dependent Systems", PIER—Progress In Electromagnetic Research, Vol. 63, pp. 51-73, 2006
123. With George Venkov and Martin McCall, "The theory of low-frequency wave physics revisited", JEMWA—Journal of Electromagnetic Waves and Applications, Vol. 21, pp. 229–249, 2007.
124. "Free-space relativistic low-frequency scattering by moving objects", PIER—Progress In Electromagnetic Research, Vol. 72, pp. 195-214, 2007.
125. With Martin McCall, "Relativity and mathematical tools: waves in moving media", American Journal of Physics, Vol. 75, pp. 1134-1140, 2007.
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127. With Jonathan Molcho "Integrative engineering electrodynamics", in process.
128. With Martin McCall, "Electrodynamics in accelerated and rotating systems: A critique", in process.

129. With Martin McCall, “Special-Relativity education: deducing the Lorentz transformation via basic kinematical arguments”, in process

### Conference Presentations

1. With A. Nathan, "Application of the new topological rules for linear networks", Proceedings 5th. Natl. Convention of Electronics and Control Engineers of Israel, Technion City, Haifa, Israel, June 28-29, 1965, pp. E1 - E8.
2. "The superposition theorem for networks containing dependent sources and its application to Nathan's rules", Proceedings 5th. Natl. Convention of Electronics and Control Engineers of Israel, Technion City, Haifa, Israel, June 28-29, 1965, pp. E9 - E15.
3. With A. Nathan, "Extended  $\nabla$  relations with reference to e.m. waves in moving simple media", Proceedings 6th. Natl. Convention of Electrical and Electronics Engineers in Israel, Tel Aviv, Israel, October 1968, pp. 498 - 505.
4. "Scattering by moving objects and scattering in moving media", Proceedings 6th. Natl. Convention of Electrical and Electronics Engineers in Israel, Tel Aviv, Israel, October 1968, pp. 466 - 480.
5. "Propagation and scattering of sound waves in moving media", 15th. Israel Annual Conference on Aeronautics and Astronautics, Tel Aviv, Israel, March 1971, see reference No. 14 above.
6. "Velocity dependent multiple scattering by two thin cylinders", Proceedings 7th. Natl. Convention of Electrical and Electronics Engineers in Israel, Tel Aviv, Israel, April 1971, pp. 321 - 333.
7. With M. Schoenberg, "The problem of energy concentration on a rapidly wound cable", Israel Society for Theoretical and Applied Mechanics, 19th. Annual Conference, Haifa, Israel, 1971, see reference No. 16 above.
8. With K. Suchy, "Wave packets and ray tracing in lossy media", Kleinheubacher Berichte, Vol. 19, pp. 617 - 623, 1976. Proceedings of the National URSI Committee Conference, Kleinheubach, Germany, Oct. 1975.
9. "Fermat's principle and real space-time rays in absorbing media", The 10th. Convention of Electrical and Electronics Engineers in Israel, paper C/1/2, pp. 1 - 6, Tel Aviv, Israel, Oct. 1977.

10. "Real ray tracing in an unmagnetized absorptive ionosphere", 1978 International Symposium on Antennas and Propagation, Sendai, Japan, Aug. 1978.
11. "A geometrical construction for self focusing in homogeneous nonlinear media", Annual Meeting of the Israel Physical Society, Ben Gurion University of the Negev, Beer Sheva, Israel, April 1979.
12. With D.M. LeVine, "A proposed method for wind velocity measurement from space", URSI Natl. Radio Science Meeting, Boulder, Colorado, Jan. 12-16, 1981.
13. "Wave packets and localized pulses", URSI National Radio Science Meeting, Boulder, Colorado, Jan. 12-16, 1981.
14. "A dual approach for wave packets and solitary waves in nonlinear systems", IEEE/URSI International Meeting, Los Angeles, California, June 15-19, 1981.
15. With D.M. LeVine, "Cauchy integral considerations for Hamilton equations of geometrical optics", URSI XX<sup>th</sup> General Assembly, Washington DC, Aug. 10-19, 1981.
16. "Real propagation of solitary waves in absorptive media", URSI XX<sup>th</sup> General Assembly, Washington DC, Aug. 10-19, 1981.
17. "Scattering by weakly nonlinear objects", invited paper, NSF-CBMS Research Conference on Nonlinear Waves and Integrable Systems, East Carolina University, Greenville, North Carolina, June 22-26, 1982.
18. "Scattering by weakly nonlinear objects", invited paper, URSI National Meeting, Technion City, Haifa, Israel, July 5, 1982.
19. "Scattering by weakly nonlinear objects", IEEE 13th. Conference of Electrical and Electronics Engineers in Israel, Tel Aviv, Israel, March 22-24, 1983.
20. "Ray tracing in absorbing media: Is there a light at the end of the tunnel?", invited paper, Proceedings IEEE 13th. Conference of Electrical and Electronics Engineers in Israel, paper 2.1.1, pp. 1 - 8, Tel Aviv, Israel, March 22-24, 1983.

21. "Doppler effect theory - fact fiction and approximation", Proceedings URSI International Symposium on Electromagnetic Theory, pp. 17 - 24, Santiago de Compostela, Spain, Aug. 23-26, 1983.
22. "Electromagnetic scattering by harmonically excited expanding surfaces and related complex resonances", 1983 Annual Meeting of the Israel IEEE Microwave and Antennas Society, Tel Aviv, Israel, Nov. 22, 1983.
23. "Transient scattering in velocity dependent systems", Israel URSI Workshop on Electromagnetic Pulse and Transient Phenomena of Electromagnetic Radiation, Technion City, Haifa, Israel, Sept. 25, 1984.
24. "Theoretical considerations for time dependent transient scattering", Proceedings IEEE 14th. Convention of Electrical and Electronics Engineers in Israel, paper 1.3.2, pp. 1 - 6, Tel Aviv, Israel, March 26-28, 1985.
25. With V. L. Newhouse, J. A. Cisneros and B. Goldberg, "Ultrasound Doppler probing of flows transverse with respect to beam axis", (poster session), Symposium on Computers in Ultrasound, Philadelphia, Pennsylvania, Sept. 22-24, 1985.
26. With G. Yu and V. L. Newhouse, "On the feasibility of measuring coherent signals in random wave systems" (poster session), Symposium on Computers in Ultrasound, Philadelphia, Pennsylvania, Sept. 22-24, 1985.
27. With V. L. Newhouse, J. A. Cisneros and B. Goldberg, "Ultrasound Doppler probing of flows transverse with respect to beam axis", Proceedings IEEE 1985 Ultrasonics symposium, pp. 971 - 974, San Francisco, California, Oct. 16-18, 1985.
28. "Harmonic and transient scattering from weakly nonlinear objects", 1986 IEEE Antennas Propagation and Scattering Symposium and URSI National Radio Science Meeting, Philadelphia, Pennsylvania, June 8-13, 1986.
29. With V. L. Newhouse, H. V. Ortega, G. Maskarinec and B. Goldberg, "The Doppler spectrum for beam - flow angles close to 90 degrees", Proceedings 5th. International Conference on Mechanics in Medicine and Biology, pp. 267 - 272, Bologna, Italy, July 1-5, 1986.

30. With V. L. Newhouse, H. V. Ortega and B. Goldberg, "Transverse Doppler", International Conference/Workshop on Blood Vessel Imaging, Using Ultrasound Techniques, Southampton, England, Sept. 4-5, 1986.
31. With V. L. Newhouse, "Theory of ultrasound Doppler-spectra velocimetry for arbitrary beam and flow configurations", Proceedings 1986 IEEE Ultrasonics Symposium, Colonial Williamsburg, Williamsburg, Virginia, Nov. 17-19, pp. 923-931, 1986.
32. With G. Y. Yu and V. L. Newhouse, "On coherent scattering from random ensembles and its information contents", Proceedings 1986 IEEE Ultrasonics Symposium, Colonial Williamsburg, Williamsburg, Virginia, Nov. 17-19, pp. 797-802, 1986.
33. "Generalized Doppler effect: Coherent and incoherent spectra", presented at the URSI National Radio Science Meeting, Boulder, Colorado, Jan. 12-15, 1987.
34. "Acoustical Doppler effect analysis - is it a valid method?" (invited lecture), Proceedings of the 13th. Northeast Bioengineering Conference (abstract), Philadelphia, Pennsylvania, March 12-13, 1987.
35. with V. L. Newhouse, H. V. Ortega and T. Vontz, "Doppler ultrasound spectrometry for arbitrary directions of insonification", 4<sup>th</sup>. New England Ultrasonic Doppler Conference, New England Center. for Continuing Education, Durham, NH, May 27-30, 1987.
36. "Electromagnetic propagation and scattering in time dependent moving media", IEEE AP-S Intl. Symposium and URSI Radio Science Meeting, Blacksburg, Virginia, June 15-19, 1987.
37. With H. V. Ortega, T. Vontz, V. L. Newhouse, J. Reid and B. B. Goldberg, "Flow velocity detection using 90 degree vs. conventional oblique angles", 5<sup>th</sup> Meeting of the World Federation for Ultrasound in Medicine and Biology, Washington, D. C., Oct. 1988.
38. "Broadband scattering from shear flows and the non Doppler remote sensing of velocity profiles", 16<sup>th</sup> Convention of Electrical and Electronics Engineers in Israel, Tel Aviv March 7-9, 1989.

39. With J. J Gavan, "Wave packets, group velocities and rays in lossy media, revisited", 16<sup>th</sup>. Convention of Electrical and Electronics Engineers in Israel, Tel Aviv, March 7-9, 1989.
40. "The Huygens principle and Doppler effect in the presence of time-dependent surfaces", URSI International Symposium on Electromagnetic Theory, Stockholm, Sweden, August 14-17, 1989.
41. "Application-Oriented Relativistic Electrodynamics", opening lecture of the Antennas and Propagation sessions, The 17<sup>th</sup>. Convention of Electrical and Electronics Engineers in Israel, Tel Aviv May 5-7, 1991.
42. With E. Sonnenschein, "Computer simulation of Doppler spectra associated with moving scatterers for different source configurations and arbitrary trajectories", The 17<sup>th</sup> Convention of Electrical and Electronics Engineers in Israel, Tel Aviv, May 5-7, 1991.
43. Invited lecture: "'Waves', 'Objects' and Special Relativity", Workshop on Trends in Electromagnetics and Wave Theory, Tel-Aviv University, February 18, 1993.
44. With C. J. Russell and P. L. Dyson, "Real ray trajectories in complex space for collisional plasmas", Poster Presentation, AINSE Plasma Science and Technology Conference, Academy of Sciences, Canberra, Australia, July 12-15, 1993.
45. With I. Gurwich, "Steady state electromagnetic wave propagation in weakly nonlinear media", COMPUMAG--Conference on the Computation of Electromagnetic Fields, Florida International University, Miami, Florida, October 31 - November 4, 1993.
46. With Y. Ben-Shimol, "Wave propagation in moving chiral media: The Fizeau experiment revisited", PIERS-Progress in Electromagnetics Research Symposium July 11-15, 1994, European Space Research and Technology Centre, ESTEC, Noordwijk, The Netherlands.

47. With I. Gurwich, "Propagation of electromagnetic waves with a continuous narrow-band spectrum in weakly nonlinear media", PIERS-Progress in Electromagnetics Research Symposium, July 11-15, 1994, European Space Research and Technology Centre, ESTEC, Noordwijk, The Netherlands.
48. With C. J. Russell and P. L. Dyson, "Real ray paths in complex space for collisional ionospheric plasmas", Poster Presentation, Australian Institute of Physics Congress, and Asia Pacific Physics Conference, Brisbane, Queensland, Australia, July 4-8, 1994.
49. With I. Gurwich, "Steady state electromagnetic wave propagation in weakly nonlinear media", Photonics Day Conference, United Technologies Research Center, East Hartford, Connecticut, October 20, 1994. Poster session.
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52. With M. Sonnenschein, "Simulation of light beam propagation in nonlinear media", Proceedings of the 18<sup>th</sup>. Convention of Electrical and Electronics Engineers in Israel, Tel Aviv, March 7-8, 1995, pp. 2.4.1 1-5.
53. With I. Gurwich, "Some aspects of wave propagation in quadratic weakly nonlinear media", Proceedings of the 18<sup>th</sup>. Convention of Electrical and Electronics Engineers in Israel, Tel Aviv, March 7-8, 1995, pp. 2.4.2 1-5.
54. With Y. Ben-Shimol, "On the existence of the near zone inverse Doppler effect", Proceedings of the 18<sup>th</sup>. Convention of Electrical and Electronics Engineers in Israel, Tel Aviv, March 7-8, 1995, pp. 2.4.3 1-5.

55. With Y. Ben-Shimol, "Wave propagation in moving chiral media: The Fizeau experiment revisited", Proceedings of the 18<sup>th</sup>. Convention of Electrical and Electronics Engineers in Israel, Tel Aviv, March 7-8, 1995, pp. 2.4.5 1-5.
56. With S. Jang, L.R. Welsh and M.D. Fox, "Review and recent results for *in-vivo* ocular polarimetry in the presence of biological chiral media", the 1995 IEEE AP-S and URSI Radio Science meeting, Newport Beach, CA, June 18-23, 1995.
57. With Y. Ben-Shimol, "On the existence of the near zone inverse Doppler effect", the 1995 IEEE AP-S and URSI Radio Science Meeting, Newport Beach, CA, June 18-23, 1995.
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60. With M.D. Fox, "Polarimetry in the presence of chiral and gyrotropic media and various reflection and retrodirection mirroring mechanisms", PIERS--Progress in Electromagnetics Research Symposium, Innsbruck, Austria, 8-12 July, 1996.
61. With E. Sonnenschein, I. Rutkevich, and J.A. Bennett, "Ray tracing in an absorptive collisional and anisotropic ionosphere", PIERS--Progress in Electromagnetics Research Symposium, Innsbruck, Austria, 8-12 July, 1996.
62. With M. Sonnenschein, "Simulation of light beam propagation in nonlinear media", PIERS (Progress in Electromagnetics Research Symposium), Innsbruck, Austria, 8-12 July, 1996.

63. With E. Sonnenschein, J. Bennett and I. Rutkevich, "Ray tracing in an absorptive collisional ionosphere", The IEEE XIX<sup>th</sup> Convention of Electrical and Electronics Engineers in Israel, Jerusalem, November 5-6, 1996.
64. With Y. Ben-Shimil, "Interaction of electromagnetic waves with irrotational chiral media", The IEEE XIX<sup>th</sup> Convention of Electrical and Electronics Engineers in Israel, Jerusalem, November 5-6, 1996.
65. With M. Sonnenschein, "Simulation of light beam propagation in nonlinear media", The IEEE XIX<sup>th</sup> Convention of Electrical and Electronics Engineers in Israel, Jerusalem, November 5-6, 1996.
66. Invited lecture, with M.D. Fox, "Polarimetry in the presence of various external reflection and retrodirection mirroring mechanisms, for chiral and gyrotropic media", URSI, Israel chapter, Annual Symposium, Tel-Aviv University and Holon Institute of Technological Education, Dec., 11-12, 1996.
67. Invited lecture, with E. Sonnenschein, J. Bennett and I. Rutkevich, "Ray tracing in an absorptive collisional ionosphere", URSI, Israel chapter, Annual Symposium, Tel-Aviv University and Holon Institute of Technological Education, Dec., 11-12, 1996.
68. Invited lecture, with Y. Ben-Shimol, "Interaction of electromagnetic waves with irrotational chiral media", URSI, Israel chapter, Annual Symposium, Tel-Aviv University and Holon Institute of Technological Education, Dec., 11-12, 1996.
69. With Y. Ben-Shimol, "Interaction of electromagnetic waves with irrotational chiral media", presented at the IEE 10<sup>th</sup> International Conference on Antennas and Propagation, Heriot-Watt University, Edinburgh, United Kingdom, April 14-17, 1997
70. With E. Sonnenschein and I. Rutkevich, "Propagation of whistler wave packets in a collisional plasma", Proceedings of ICPIG (International Conference on Phenomena in Ionized Gases), Toulouse, France, July 17-22, 1997, Vol. I, pp. I-234 - I-235.

71. With Y. Ben-Shimol, "Wave propagation in weakly nonlinear bi-anisotropic and bi-isotropic media", Proceedings of The 4<sup>th</sup> ISAE (International Symposium on Antennas and Propagation), Xi'an, China, August 19-22, 1977, pp. 10-13.
72. Invited lecture: "Quasi Doppler effects associated with spatiotemporal translatory, moving, and active boundaries", Israel URSI Annual Convention, Technion City, Haifa, Dec. 15, 1998.
73. "Maxwell's electrodynamics in the presence of nonlinear media", invited lecture, presented in ISEM99, International Symposium on Non-linear Electromagnetic Systems, Pavia, Italy, May 10-12, 1999.
74. "A quest for systematic constitutive formulations for general field and wave systems based on the Volterra differential operators", URSI/IEEE XXIV<sup>th</sup> Convention on Radio Science 4-5 October 1999, University of Turku, Mauno Koivisto Centre, Turku, Finland. Tuorla Observatory Reports, Report No. 181, E. Valtraoja and K. Wiik, eds., p. 16 (abstract)
75. With M.D. Fox, Sunghoon Jang, and Zhi Yang "First-order material effects in gyrotropic systems", IEEE 26<sup>th</sup> Annual Northeast Bioengineering Conference, Storrs, University of Connecticut, April 9-10, 2000.
76. With Sunghoon Jang, Zhi Yang, and Martin D. Fox, "Double lock-in amplifier Faraday rotation glucometer", IEEE 26<sup>th</sup> Annual Northeast Bioengineering Conference, Storrs, University of Connecticut, April 9-10, 2000.
77. With Zhi Yang, Sunghoon Jang, and Martin D. Fox, "Simplified permittivity measurement of human skin in vivo", IEEE 26<sup>th</sup> Annual Northeast Bioengineering Conference, Storrs, University of Connecticut, April 9-10, 2000.
78. With Nathan Blaunstein and Dmitri Katz, "Loss characteristics in urban environment with different buildings' overlay profiles", Proceedings of the 2001 IEEE AP-S Intl. Symposium and USNC/URSI Natl. Radio Science Meeting, , pp. 170-173, Boston, Massachusetts, July 8-13, 2001.

79. "Constitutive relations in inhomogeneous systems and the particle-field conundrum", Proceedings of the Complex Mediums II: Beyond Linear Isotropic Dielectrics (AM220), pp. 339-350, *Part of SPIE's International Symposium on Optical Science and Technology*, 29 July to 3 August 2001, San Diego, California USA.
80. "Constitutive formulations for general field and wave systems based on the Volterra Differential Operators", presented at the 12<sup>th</sup> International Colloquium on Differential Equations, Plovdiv, Bulgaria, August 18-23, 2001.
81. With N. Blaunstein, "Prediction of cellular characteristics for various microcell urban environments", PIERS-Progress in Electromagnetics Research Symposium, Cambridge, Massachusetts, July 1-5, 2002
82. With T. Melamed, "A note on Volterra differential constitutive operators and locality considerations in electromagnetic theory", Proceedings of the Complex Mediums III: Beyond Linear Isotropic Dielectrics (Conference 4806), Paper 4806-10, Part of SPIE's International Symposium on Optical Science and Technology, July 8-10, 2001, Seattle, Washington USA.
83. (invited lecture) "Relativistic and non-relativistic boundary conditions for scattering in the presence of moving media and objects", 6<sup>th</sup> International Workshop on Mathematical Methods in Scattering theory and Biomedical Engineering, 18-21 Sept. 2003, Monastery of Rogovos, Tsepelovo, Greece. Published in *Advances in Scattering and Biomedical Engineering*, D.I. Fotiades and C.V. Massalas, eds., pp. 213-225, World Scientific, 2004.
84. "Non-relativistic electromagnetic scattering: "Reverse engineering" using the Lorentz force formulas", PIERS-Progress in Electromagnetics Research Symposium, Honolulu, Hawaii, 13-16 October 2003.
85. With N. Blaunstein and Y. Ben-Shimol, "Frequency Planning and Link Budget Design for Various Terrestrial Communication Links", PIERS-Progress in Electromagnetics Research Symposium, Honolulu, Hawaii, 13-16 October 2003.

86. (Invited lecture) "Non-relativistic scattering by time-varying moving bodies and media", 30<sup>th</sup> International Conference on Applications of Mathematics in Engineering and Economics, 7-12 June, 2004, Sozopol, Bulgaria.
87. "Non-relativistic scattering by time-varying moving bodies and media", Days on Diffraction 2004 conference, June 29-July 2, 2004, The Mathematical Institute of St. Petersburg University, St. Petersburg, Russia.
88. (Invited lecture) "Relativistic electrodynamics: various postulates and ratiocinations", 3<sup>rd</sup> International Conference on Applications of Mathematics in Engineering and Economics, 5-10 June, 2005, Sozopol, Bulgaria.
89. "Relativistic electrodynamics: various postulate and ratiocination frameworks", 7<sup>th</sup> International Workshop on Mathematical Methods in Scattering Theory and Biomedical Technology, 8-11 September, 2005, Nymphaio, Greece.
90. With G. Venkov and M. W. McCall, "Novel perspectives on low-frequency scattering", SPIE Complex Photonic Media Conference, paper number 6320-33, San Diego, California, US, August 13–17, 2006.
91. Invited Plenary Session With G. Venkov and M. W. McCall, "The theory of low-frequency wave physics revisited", The 6th. General Conference of the Society of Physicists of the Republic of Macedonia (SPRM), Ohrid, Macedonia, September 14-17, 2006.
92. With G. Venkov and M.W. McCall, "The Theory of Low-Frequency Wave Physics Revisited", The 8<sup>th</sup> International Workshop on Mathematical Methods in Scattering Theory and Biomedical Engineering, Lefkada, Greece, September 27-29, 2007.
93. With G. Venkov and M.W. McCall, "The Theory of Low-Frequency Wave Physics Revisited", PIERS 2008, Hangzhou, China, March 24-28, 2008.
94. Invited lecture, "Broadband spatiotemporal differential-operator representations for velocity-dependent scattering", invited lecture, Workshop on Mathematical Methods in Applied Sciences, Uludag University, Bursa, Turkey, May 22-23, 2008.

95. Invited lecture, with Martin McCall, “Special Relativity Education”, 7<sup>th</sup> Conference of the Society of Physicists of the Republic of Macedonia (SPRM), September 18-21, 2008, Ohrid, Macedonia.
96. With Martin McCall, “Special Relativity Education”, Proceedings V<sup>th</sup> International Workshop on Electromagnetic Wave Scattering, EWS2008, pp. 3-1 to 3-11. Akdeniz University, Antalya, Turkey, October 22-25, 2008.
97. “Relativistic invariance of dispersion-relations and their associated wave-operators and Green-functions”, Proceedings of 2008 IEEE 25<sup>th</sup> Convention of Electrical & Electronics Engineers in Israel (IEEEI 2008), December 3-5, 2008, Eilat, Israel, pp. 255-259.
98. With Martin W. McCall, Paul Kinsler, and Alberto Favaro, “What is Negative Refraction?”, Proceedings SPIE, Vol. 7392, 73921M, Sep. 1, 2009, Negative Index Materials, SPIE Optics and Photonics Conference, San Diego, CA, USA, August 2-6, 2009.
99. With Martin W. McCall and Paul Kinsler, “Negative Refractive Index in Natural, Nonmagnetic Media”, 3<sup>rd</sup> International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, London, UK, Aug 30<sup>th</sup>-Sept 4<sup>th</sup>, 2009.
100. With Martin W. McCall and Paul Kinsler, “Negative Refractive Index in Natural, Nonmagnetic Media”, CLEO/Pacific Rim 2009, Shanghai, China, Aug 30<sup>th</sup>-Sept 3<sup>rd</sup>, 2009.
101. “The Need for a First-Order Quasi Lorentz Transformation”, The 9<sup>th</sup> International Workshop on Mathematical Methods in Scattering Theory and Biomedical Engineering, Patras, Greece, 9-11 October 2009, pp. 272-280 in *Advanced Topics in Scattering Theory and Biomedical Engineering - Proceedings of the 9th International Workshop on Mathematical Methods in Scattering Theory and Biomedical Engineering*, A. Charalambopoulos, D. I. Fotiadis, D. Polyzos, editors. Publisher: World Scientific Publishing Company Co.
102. Invited Plenary Session “The Need for a First-Order Quasi Lorentz Transformation”, Proceedings of the 2<sup>nd</sup> International Conference AMiTaNS’10—Application of Mathematics in Technical and Natural Sciences, Sozopol, Bulgaria, June 21-26, 2010, AIP Conference Proceedings, Vol. 1301, p.3, 2010.

103. “The Need for a First-Order Quasi Lorentz Transformation”, The 12<sup>th</sup> Electromagnetic and Light Scattering Conference, University of Helsinki, Helsinki, Finland, June 28-July 2, 2010. Conference Proceedings pp. 26-29.
104. Invited Plenary Session “Teaching Electrodynamics to the Hard-Nosed”, 7<sup>th</sup> Conference of the Society of Physicists of Macedonia (SPRM), September 23-25, 2010, Skopje, Macedonia.
105. “The quasi Lorentz transformation for rotating objects”, AMiTaNS’11, 3<sup>rd</sup> Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences, Albena, Bulgaria, June 20-25, 2011.
106. “The quasi Lorentz transformation for rotating objects”, The 24<sup>th</sup> International Conference of Jangjeon Mathematical Society, ICJMS’2011, July 20-23, 2011, Konya, Turkey.

#### Theses

1. “Topology of active networks”, thesis for the degree of M.Sc., submitted to the Senate of the Technion - Israel Institute of Technology, Haifa, Israel, 1963.
2. “Scattering in velocity dependent systems”, thesis for the degree of D.Sc., submitted to the Senate of the Technion - Israel Institute of Technology, Haifa, Israel, 1967.

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