

# LIST OF PUBLICATIONS

## *I. Paper in Refereed Journals*

1. Y.Prior and E.L.Hahn, Optical Rotary Saturation, **Phys.Rev.Lett.** 39, 1329 (1977).
2. Y.Prior, J.Kash and E.L.Hahn, Optical Rotary Saturation in Gas, **Phys.Rev.A** 18, 2603 (1978).
3. Y.Prior, Double Frequency Narrow Band Grazing Incidence Pulsed Dye Laser, **Rev.Sci.Instr.** 50, 259 (1979).
4. Y.Prior and H.Vogt, Measurement of UV Two Photon Absorption Relative to Raman Cross Sections, **Phys.Rev.** B19, 5388 (1979).
5. I. Burak, J.Tsao, Y.Prior and E.Yablonovitch, Multiphoton Vibrational Pumping of Optically Prepared NO<sub>2</sub>\* Molecules, **Chem.Phys.Lett.** 68, 31 (1979).
6. Y.Prior, Three-Dimensional Phase Matching in Four Wave Mixing, **App.Opt.** 19, 1741 (1980).
7. Y.Prior, A.R.Bogdan, M.Dagenais and N.Bloembergen, Pressure Induced Extra Resonances in Four Wave Mixing, **Phys.Rev.Lett.** 46, 111 (1981).
8. A.Bogdan, Y.Prior and N.Bloembergen, Pressure Induced Degenerate Frequency Resonance in Four Wave Mixing, **Opt.Lett.** 6, 82 (1981).
9. V.Mizrahi, Y.Prior and S.Mukamel, Single Atom Versus Coherent Pressure Induced Extra Resonances in Four Photon Processes, **Opt.Lett.** 8, 145 (1983).
10. Y.Prior and E.Yarkoni, Sub-Doppler Resolution in Strongly Saturated Copropagating Degenerate Four Wave Mixing, **Phys.Rev.** A28, 3689 (1983), Rapid communication.
11. Y.Prior, A Complete Expression for the Third Order Susceptibility  $\chi^{(3)}$  - Perturbative and Diagrammatic Approaches, **IEEE Journal of Quantum Electronics**, QE-20, 37 (1984).
12. E.Yarkoni and Y.Prior, Exact and Approximate Expressions for  $\chi^{(3)}$  in CARS Diagnostics Measurements, **IEEE Journal of Quantum Electronics**, QE-20, 43 (1984).
13. Y.Prior and A.N.Weiszmann, Quantum Theoretical Description of Coherent Four Wave Mixing, **Phys.Rev.** A29, 2700 (1984).
14. Y.Prior, I.Schek and J.Jortner, Coherent Optical Interaction of a Multilevel System with Fluctuating Laser Fields, **Phys.Rev.** A31, 3775 (1985).
15. R.Tenne, V.Marcu and Y.Prior, Photoelectrochemical Etching of Semiconductor compounds: Wavelength Dependence, **Appl.Phys.** A37, 205 (1985).
16. Y.Prior and A.Ben-Reuven, Nonimpact Theory of Four Wave Mixing and Intracollisional Dynamics, **Phys.Rev.** A32, 2362 (1986).
17. A.M.Levine, N.Chencinski, W.M.Schreiber, A.N.Weiszmann and Y.Prior, Strong Field Theory of Four Wave Mixing, **Phys.Rev.** A35, 2550 (1987).
18. A.G.Kofman, A.M.Levine and Y.Prior, Stochastic Fluctuations in Four Wave Mixing - A Unified Theory, **Phys.Rev.** A37, 1248 (1988).
19. A.G.Kofman, R.Zaibel, A.M.Levine and Y.Prior, Non Markovian Stochastic Jump Processes in Nonlinear Optics, **Phys.Rev.Lett.**, 61, 251 (1988)
20. J.E.Golub, P.F.Liao, D.J.Eilenberger, J.P.Harbison, and L.T.Florez and Y.Prior, Type I - Type II Anticrossing and Enhanced Stark Effect in Asymmetric Coupled Quantum Wells, **Appl.Phys.Lett.** 53, 2584 (1988).
21. A.G.Kofman, R.Zaibel, A.M.Levine and Y.Prior, Non Markovian Stochastic Jump Processes: I. Input Field Analysis, **Phys.Rev.** A41, 6434 (1990).
22. A.G.Kofman, R.Zaibel, A.M.Levine and Y.Prior, Non Markovian Stochastic Jump Processes: II. The case of Resonance Fluorescence, **Phys.Rev.** A41, 6454 (1990).

23. A. Levinger, N. Katzenellenbogen and Y. Prior, high resolution hyperfine spectroscopy in real space, **Opt. Lett.** 15, 625 (1990).
24. N. Katzenellenbogen and Y. Prior, J dependence of hyperfine constants as measured by high resolution spectroscopy, **J. Chem Phys.**, 93, 897 (1990).
25. N. Katzenellenbogen, P.S. Stern and Y. Prior, On the measurement of (predissociation) rates in the frequency and time domains, **J. Chem. Phys.**, Letters to the Editor, Note 92, 7718 (1990).
26. N. Chencinski, W.M. Schreiber, A.M. Levine and Y. Prior, Strong Field Theory of Four Wave Mixing II: Density matrix treatment of extra resonances, **Phys. Rev. A**, 42, 2839 (1990).
27. A. Levinger and Y. Prior, High resolution ( $0.00006 \text{ cm}^{-1}$ ) spectroscopy of molecules in supersonic jets, **J. Chem. Phys.** 94, 1664 (1991) Communication.
28. H.H. Yaffe, Y. Prior, J. Harbison and L. Florez, Polarization dependence and selection rules of transient four wave mixing in GaAs quantum well excitons, **JOSA B** 10, 578 (1993).
29. Nadav Horesh and Y. Prior, Field Induced Resonances in Four Wave Mixing, **Phys. Rev. A**, 48, R38 (1993) Rapid Communication.
30. R. Zaibel, B.M. Chernobrod and Y. Prior, Relaxation Oscillations in Quasi single mode semiconductor lasers, **IEEE J-Quant. Electr.**, 30, 2081 (1994)
31. Opher Kinrot and Y. Prior, Four Wave Mixing in Optically Dense Media, **Phys Rev. A**, 50, R1999 (1994) Rapid Communication.
32. Opher Kinrot and Y. Prior, Nonlinear Interaction of Propagating Short Pulses in Optically Dense Media, **Phys. Rev. A** 51, 4996 (1995).
33. Opher Kinrot, I. Sh. Averbukh and Y. Prior, Measuring Coherence while Observing Noise, **Phys. Rev. Lett.** 75, 3822 (1995).
34. V. Milner, B.M. Chernobrod and Y. Prior, Coherent population trapping in a highly degenerate open system, **Euro. Phys. Lett.** 34, 557 (1996)
35. O. Ben David, E. Shafir, I. Gilath, Y. Prior and D. Avnir, Simple Absorption Optical Fiber pH Sensor Based on Doped Sol-Gel Cladding Material, **Chem. Mater.** 9, 2255 (1997).
36. Valery Milner and Y. Prior, Multilevel dark states: Coherent Population Trapping with Elliptically Polarized Incoherent Light, **Phys. Rev. Lett.** 80, 940 (1998)
37. Valery Milner and Y. Prior, Biaxial Spatial Orientation of Atomic Angular Momentum, **Phys. Rev. A. Rapid Communications**, 59, R1738 (1999)
38. V. Milner, B.M. Chernobrod and Y. Prior, Arbitrary Orientation of Atoms and Molecules via Coherent Population Trapping by Elliptically Polarized light, **Phys. Rev. A**, 60, 1293 (1999)
39. Moshe Ben-Chorin, Silvia Chuartzman and Y. Prior, Distance Measurements Using a White Light Noisy Interferometer, **Appl. Phys Lett.**, 73, 581 (1998)
40. Adi Eliahu, J. Buhler, M. Ben Chorin, H. Cohen and Y. Prior, Nano Particle Seeding and its Characterization by X ray Photoelectron Spectroscopy (XPS), **Diamonds and Related Materials**, 8, 146 (1999)
41. Jurgen Buhler and Y. Prior, Backscattering Coherent Anti Stokes Raman Scattering on CVD Diamond, **Diamonds and Related Materials** 8, 673 (1999)
42. Jurgen Buhler and Y. Prior, Morphological Behavior of Single Diamond Crystals, **J. of Crystal Growth**, 209, 779-788 (2000)
43. B.M. Chernobrod, O.A. Sedletsky, I. Sh. Averbukh and Y. Prior, Resonant Scanning Near Field Microscopy, **Opt. Comm.** 174, 33 (2000)
44. G. Knopp, Iddo Pinkas, and Yehiam Prior, Two Dimensional Time Delayed Coherent Anti-Stokes Raman Spectroscopy and Wavepacket Dynamics of High Ground State Vibrations, **Journal of Raman Spectroscopy**, 31, 51 (2000)
45. Ch. Warmuth, A. Tortschanoff, F. Milota, M. Shapiro, Y. Prior, I. Sh. Averbukh, W. Schleich, W. Jakubetz and H.F. Kauffmann, Studying Vibrational Wavepacket Dynamics by Measuring Fluorescence Interference Fluctuations, **J. Chem. Phys.** 112, 5060 (2000)

46. CARS Monitoring of Ground State Vibrational Wavepackets Prepared by Time Delayed Femtosecond Pulses, Yehiam Prior, Iddo Pinkas and Gregor Knopp, **Nonlinear Optics**, **24**, 233, (2000)
47. I. Pinkas, G. Knopp, and Yehiam Prior, Preparation and Monitoring of High Ground State Vibrational Wavepackets by Femtosecond CARS, **J. Chem. Phys.**, **115**, 236 (2001)
48. J. Fiurasek, B. Chernobrod, Y. Prior, and I. Sh. Averbukh, Coherent light scattering and resonant energy transfer in apertureless near-field optical microscope **Phys. Rev.** **B63**, 45420, (2001).
49. Ch. Warmuth, A. Tortschanoff, F. Milota, M. Leibscher, M. Shapiro, Y. Prior, I. Sh. Averbukh, W. Schleich, W. Jakubetz and H. F. Kauffmann, Molecular Quantum Wavepackets in Thermal Systems: Fractional Wave Packet Revivals Probed by random-Phase Fluorescence Interferometry, **J. Phys. Chem.** **114**, 9901 (2001)
50. J. Faeder, I. Pinkas, G. Knopp, Y. Prior and D. J. Tannor, Vibrational Polarization Beats in Femtosecond CARS: a Signature of Dissociative Pump-Dump-Pump Wavepacket Dynamics, **J. Chem. Phys.** **115**, 8440 (2001)
51. Y. Rosenfeld Hacohe, R. Popovitz-Biro, E. Grunbaum, Y. Prior, and R. Tenne, Vapor-Liquid-Solid (VLS) Growth of NiCl<sub>2</sub> Nanotubes via Reactive Gas Laser Ablation, **Adv. Mater.**, **14**, 1075 (2002)
52. Y. Rosenfeld Hacohe, R. Popovitz-Biro, Y. Prior, S. Gemming, G. Seifer and R. Tenne, Synthesis of NiCl<sub>2</sub> nanotubes and fullerene-like structures by laser ablation, theoretical considerations and comparison with MoS<sub>2</sub> nanotubes, **Physical Chemistry Chemical Physics**, **5**, 1644-1651 (2003)
53. S. Y. Hong, R. Popovitz-Biro, Y. Prior, R. Tenne, Synthesis of SnS<sub>2</sub> /SnS Fullerene-Like Nanoparticles: a Superlattice with Polyhedral Shape **J. Am. Chem. Soc.**, **125**, 10470-10474 (2003).
54. David Zbaida, Ronit Popovitz-Biro, Aurelie Iachish Zalait, Eugenuia Klein, Ellen Wachtel, Yehiam Prior and Michael Elbaum, Laser Induced Direct Lithography for Patterning of Carbon with SP<sup>3</sup> Hybridization, **Adv. Funct. Mater.** **13**, 412 (2003)
55. I. Sh. Averbukh and Yehiam Prior, Laser cooling in an optical shaker, **Phys. Rev. Lett.** **94**, 153002 (2005)
56. Ana Abu Yaron, Talmon Arad, Ronit Popovitz-Biro, Maya Bar-Sadan, Yehiam Prior, Martin Jansen and Reshef Tenne, Closed-Cage (Fullerene-Like) Structures of Cs<sub>3</sub>O, **Angewandte Chemie**, **44**, 4169-4172 (2005)
57. Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior, Isotope-selective laser molecular alignment, **Phys. Rev. A, Rapid Communications**, **74**, 041403-1, (2006)
58. Mark Vilensky, I. Sh. Averbukh, Yehiam Prior, Laser Cooling in a Feedback-Controlled Optical Shaker, **Physical Review A**, **73**, 063402 (2006)
59. M. Bar-Sadan, R. Popovitz-Biro, Yehiam Prior and R. Tenne, Closed-Cage (fullerene-like) Structures of NiBr<sub>2</sub>, **Mater. Res. Bull.**, **41**, 2137-2146 (2006)
60. M. Bar Sadan, A. N. Enyashin, S. Gemming, R. Popovitz-Biro, S. Y. Hong, Yehiam Prior, R. Tenne and G. Seifert, Structure and Stability of Molybdenum Sulfide Fullerenes, **JPCB**, **110**, 25399-25410 (2006)
61. Yuri Paskover, I. Sh. Averbukh and Yehiam Prior, Single-Shot Two Dimensional Time Resolved Coherent Anti Stokes Raman Scattering, **Optics Express**, **15**, 1700-1705 (2007)
62. Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior, Spinning Molecules Selectively: Laser control of isotopes and nuclear spin isomers, **J. of Modern Optics**, **54**, 2641-2658 (2007)
63. Sharly Fleischer, Ilya Sh. Averbukh, and Yehiam Prior, Selective alignment of Molecular Spin Isomers, **Phys. Rev. Lett.**, **99**, 093002 (2007)
64. Mark Y. Vilensky, Yehiam Prior, and Ilya Sh. Averbukh, Cooling in a bistable optical cavity, **Phys. Rev. Lett.**, **99**, 103002 (2007) \*highlighted in Nature Photonics, **1**, 608 (2007)
65. Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior, Selective Control of Molecular Rotations, **J. Phys. B: At. Mol. Opt. Phys.** **41** 074018 (2008).

66. Andrey Shalit, Yuri Paskover, Yehiam Prior, In situ heterodyne detection in femtosecond time resolved four wave mixing, **Chemical Physics Letters** **450** 408–416, (2008).
67. Alexander A Milner, Kaiyin Zhang, Michael Karpovski and Yehiam Prior, Apertureless near-field optics on commercial AFM: Tip to sample gap control, **Journal of Physics: Conference Series**, 100, 012002 (2008).
68. Alexander A Milner, Kaiyin Zhang and Yehiam Prior, Floating Tip Nanolithography, **Nanoletters**, 8, 2017-2022 (2008).
69. Yuri Paskover, Andrey Shalit and Yehiam Prior, Phase-Matching Spectral Filtering in Combined Frequency and Time-Resolved Four Wave Mixing, (submitted)
70. Yuri Paskover\*, Andrey Shalit\* and Yehiam Prior Four Wave Mixing Spectroscopy at the Interface Between the Time and Frequency Domains, (submitted)
71. M.Y. Vilensky, Y. Prior, and I. Sh. Averbukh, Feedback-Controlled Nonresonant Laser Cooling, **Laser Physics**, 19, 752–761(2009)

## **II. Book**

1. Y.Prior. A.Ben Reuven and M.Rosenbluh, Editors, **METHODS OF LASER SPECTROSCOPY**, Plenum Press, New York (1986).

## **III. Patents**

1. Y.Prior and B.M.Chernobrod, Reduced linewidth from an electrically coupled two section semiconductor laser, **U.S. Patent 5,418,800 (1995)**
2. Opher Kinrot, I.Sh.Averbukh and Y.Prior, Method and Apparatus For Coherence Observation by Interference Noise (COIN), **Israeli Patent 113311 (1995) U.S. Patent 5,805,282 (1998)**
3. Lipman Eliezer, Prior; Yehiam and Gross Abraham, Laser drill for use in electrical circuit fabrication, **US Patent 6,689,985 (2004)**

#### **IV. *conference Abstracts and Invited Talks***

1. Y.Prior and E.L.Hahn, Single and Multiphoton Optical Rotary Saturation, Ann. Meeting of the Amer.Phys.Society, **Bull.Amer.Phys.Soc.** 23, 239 (1978).
2. Y.Prior and H.Vogt, Absolute Determination of Two Photon Absorption (TPA) Cross Sections, **Optical Society of America**, J.Opt.Soc.Amer. 68, 1423 (1978).
3. A.Bogdan, Y.Prior, M.Dagenais and N.Bloembergen, Pressure Induced Resonant Effects in Four Wave Mixing, **Optical Society of America (post deadline)**, 1980.
4. A.Bogdan, Y.Prior, M.Dagenais and N.Bloembergen, Pressure Induced Resonant Effects in Four Wave Mixing, **American Physical Society**, New York, 1981.
5. N.Katzenellenbogen and Y.Prior, High resolution of collisional broadening and predissociation in diatomic molecules, **Israel Chemical Society**, Technion, Haifa (1985)
6. Y.Prior and P.S.Stern, Fluctuations Induced Extra-Resonance, **IQEC/CLEO**, San Francisco, 1986
7. N.Katzenellenbogen and Y.Prior, Pressure Broadening of Hyperfine Multiplets, **IQEC/CLEO**, San Francisco, 1986
8. Y.Prior, A.M.Levine, N.Chencinski, W.M.Schreiber and A.N.Weiszmann, Exact Semi Classical Theory of Four Wave Mixing, **Optical Society of America**, Seattle, 1986.
9. Y.Prior and P.Stern, Fluctuation Induced Resonances, **International Laser Science (ILS) II**, Seattle, 1986.
10. W.Schreiber, N.Chencinski, A.M.Levine, A.N.Weiszman and Y.Prior, Density matrix formulation of Four Wave Mixing for strong fields, **Bull.Amer.Phys.Soc.**, 32, 1269 (1987).
11. A.G.Kofman, R.Zaibel, A.M.Levine and Y.Prior, Non Markovian Jump Processes in Nonlinear Optics, **JOSA B**, 4, p 90, (1987).
12. A.M.Levine, A.G.Kofman, N.Chencinski, W.M.Schreiber, A.N.Weiszmann, and Y.Prior, Stochastic Fluctuations and Strong Fields in Four Wave Mixing, **JOSA B**, 4, 198, (1987).
13. Y.Prior and Larry Rahn, Degenerate and non degenerate four wave mixing for diagnostics in combustion, **US-Israel Workshop on Combustion**, Ein Gedi, Israel, (1988).
14. J.E.Golub, Y.Prior, D.J.Eilenberger, P.F.Liao, Electric field effects in an AlGaAs/GaAs asymmetric Double Quantum Well, **Bull.Amer.Phys.Soc.** 33, 432 (1988).
15. J.E.Golub, P.F.Liao, Y.Prior, D.J.Eilenberger, J.P.Harbison, and L.T.Florez, Tunneling based phenomena in Asymmetric coupled quantum wells, **The American Electrochemical Society**, Chicago, 1988 (**Invited**).
16. J.E.Golub, P.F.Liao, Y.Prior, D.J.Eilenberger, J.P.Harbison, and L.T.Florez, Measurement of the electron-hole binding energy in coupled GaAs/AlGaAs quantum wells: the barbell exciton, **Bull.Amer.Phys.Soc.** (1989).
17. J.E.Golub, P.F.Liao, Y.Prior, D.J.Eilenberger, J.P.Harbison, and L.T.Florez, Screening-based nonlinearity in Asymmetric coupled quantum wells, **Bull.Amer.Phys.Soc.** (1989).
18. Y.Prior, A.G.Kofman, R.Zaibel, and A.M.Levine, Non Markovian Stochastic Jump Processes in Nonlinear Optics, **QELS**, Baltimore (1989).
19. Y.Prior, Non Markovian Stochastic Jump Processes in Nonlinear Optics, **Israel Physical Society**, Bar Ilan University, Ramat Gan, Israel (1989, (**Invited**)).
20. Y.Prior, Asymmetric Coupled Quantum Wells, **Israel Physical Society Annual Meeting**, Bar Ilan University, Ramat Gan, Israel 1989, (**Invited**).
21. Nir Katzenellenbogen and Y.Prior, Narrow ( $1/T_1$ ) Features Within The Homogeneously Broadened Lines of a Hyperfine Spectrum, **CLEO**, Baltimore (1989).
22. J.E.Golub, P.F.Liao, Y.Prior, D.J.Eilenberger, J.P.Harbison, Optical Properties of Asymmetric coupled GaAs/AlGaAs Quantum Wells, **Topical Meeting on Solid State Semiconductor Lasers '89**, Beijing, China (1989) (**Invited**).

23. Y.Prior, A.M.Levine, A.G.Kofman and R.Zaibel, Resonance Fluorescence From Atoms Excited by Strong Stochastic Laser Fields, **Ninth International Conference on Laser Spectroscopy, (NICOLS)** Bretton Woods, New Hampshire (1989).
24. Y.Prior, A.G.Kofman, R.Zaibel, and A.M.Levine Generalized Jump Model for Phase Fluctuations in Nonlinear Optics, **Rochester Conference on Coherence and Quantum Optics**, Rochester New York (1989).
25. Y.Prior, A.G.Kofman, R.Zaibel, and A.M.Levine The Generalized Jump Model, Non monochromatic laser light and atomic response, **satellite symposium to the Rochester Conference**, Rochester New York (1989). **Invited**.
26. Y.Prior, A.G.Kofman, R.Zaibel, and A.M.Levine, Non-Markovian Stochastic Jump Processes in Nonlinear Optics, **European Quantum Electronics Conference (EQEC)**, Dresden, East Germany, (1989) **Invited**
27. Nir Katzenellenbogen and Y.Prior, Narrow Features Within Homogeneously Power Broadened Lines, **ILS-V**, San Francisco (1989)
28. Nir Katzenellenbogen and Y.Prior, Rotational dependence of Hyperfine coupling constants in Molecular Bromine, **ILS-V**, San Francisco (1989)
29. Y.Prior, A.G.Kofman, R.Zaibel, and A.M.Levine, Lasers are not absolutely coherent. Can we do anything about it, and if not, can we at least say something about it? **French Israeli symposium on Nonlinear Optics**, Tiberias, (1990) **Invited**.
30. Katzenellenbogen, P.S.Stern and Y.Prior, On the measurement of (predissociation) rates in the frequency and time domains, **CLEO**, Anaheim, California (1990)
31. Y.Prior, A.Levinger and Nir Katzenellenbogen, High resolution hyperfine spectroscopy in real space, **CLEO**, Anaheim, California (1990)
32. Y.Prior and N.Katzenellenbogen, Rotational dependence of Hyperfine coupling constants in Molecular Bromine, **CLEO**, Anaheim, California (1990)
33. Y.Prior and A.G.Kofman, Generalization of the Phase Telegraph Noise Model: The case of resonance Fluorescence, **IQEC**, Anaheim, California (1990)
34. Y.Prior, Generalized jump model for phase fluctuations in nonlinear optics, **Vavilov conference on nonlinear optics**, Novosibirsk, USSR (1990), (**Invited**)
35. Y.Prior, Why are lasers not coherent? **International Workshop on Nonlinear Dynamics and Quantum Phenomena in Optical Systems**, Blanes (Gerona) Spain, 1990 **Invited**.
36. Y.Prior, A.G.Kofman, R.Zaibel, Generalized jump model for phase fluctuations - the case of highly anti correlated jumps, **SPIE, Optcon**, Boston, 1990, **Invited**
37. H.H.Yaffe, Y.Prior J.Harbison and L.T.Florez Polarization and wavelength dependence of relaxation processes as measured by time delayed four wave mixing in quantum wells, **QELS**, Baltimore (1991).
38. A.Levinger and Y.Prior, High resolution ( $0.00006 \text{ Cm}^{-1}$ ) spectroscopy and dynamics in supersonic jets, **13th International Symposium In Molecular Beams, Madrid**, Spain (1991).
39. Nadav Horesh and Y.Prior, Field induced extra resonances in Four Wave mixing, **TENICOLS (Tenth International Conference on Laser Spectroscopy)**, Font Romeu, France (1991) (Postdeadline contribution).
40. Nadav Horesh and Y.Prior, Field Induced Resonances in Four Wave Mixing, **ILS-VII** Monterey, California, (1991)
41. H.H.Yaffe and Y.Prior, Polarization and wavelength dependence of quasi 2D exciton dephasing measured by time delayed four wave mixing, **Israel Physical Society**, Beer Sheva (1991).
42. Y.Prior, Adrian Levinger, High resolution spectroscopy in Supersonic molecular jets, **ILS-VII**, Monterey, California (1991).
43. Yaffe and Y.Prior, Polarization and wavelength dependence of photon echo decay times in Quantum Wells, **ILS-VII**, Monterey, California (1991)

44. Adrian Levinger and Y.Prior, Determination of longitudinal and transverse temperatures in supersonic jets by hyperfine spectroscopy in real space, **ILS-VII**, Monterey, California, (1991)
45. Y.Prior, Laser Processing of Diamonds - Design considerations and future trends, **International Diamond Technical Symposium**, Tel Aviv, (1991), **Plenary Talk**
46. Y.Prior and Nadav Horesh, Strong Field Four Wave Mixing, **XI European CARS Workshop**, Florence, Italy, (1992) **Invited**.
47. Y.Prior, H.H.Yaffe and A.Sharon, Exciton and biexciton dephasing in GaAs quantum wells - polarization effects and selection rules, **XI European CARS Workshop**, Florence, Italy, (1992)
48. Y.Prior and Amihai Fuxbrunner, laser processing of diamonds - Present status and future trends, **24 Israel conference on Mechanical Engineering**, Haifa, Israel, (1992) **Invited**.
49. A.Sharon, H.H.Yaffe and Y.Prior, Quantum well exciton dephasing - frequency and time domain measurements, **Israel Physical Society annual meeting**, Rehovot, (1992).
50. R.Zaibel and Y.Prior, Field correlation measurements in multi mode diode lasers, **Israel Physical Society annual meeting**, Rehovot, (1992).
51. N.Horesh and Y.Prior, Strong Field four wave mixing, **Israel Physical Society annual meeting**, Rehovot, (1992).
52. R.Zaibel and Y.Prior, Noise processes studies in multi mode diode lasers, 2d French Israeli symposium on Nonlinear Optics, Port Barcares, France (1992).
53. Y.Prior and Nadav Horesh, Strong field four wave mixing and field induced resonances, **2d French Israeli symposium on Nonlinear Optics**, Port Barcares, France (1992) **Invited**.
54. Y.Prior, R.Zaibel, B.M.Chernobrod and A.M.Levine, Effects of nonlinear noise in semiconductor lasers, **CLEO/QELS**, Baltimore (1993).
55. Nadav Horesh and Y.Prior, Observation of field induced resonances in four wave mixing, **CLEO/QELS**, Baltimore (1993).
56. Opher Kinrot and Y.Prior, Four Wave mixing in optically dense media, IQEC '94, Anaheim (1994)
57. B.Chernobrod, R.Zaibel and Y.Prior, Long time scales in multimode semiconductor lasers, **OSA '94**, Dallas Texas (1994)
58. B.Chernobrod and Y.Prior, Linewidth reduction in a two section semiconductor laser, **OSA '94**, Dallas Texas (1994)
59. Y.Prior, Strong fields in Nonlinear optics, **ILS-X**, Dallas Texas (1994)
60. Opher Kinrot and Y.Prior, Short pulse FWM in optically dense media, **XII European CARS workshop**, Paris, (1994), **Invited**
61. Y.Prior, Negative time delay in short pulse four wave mixing, **2'd Technion symposium on Optoelectronics**, Haifa (1994).
62. Y.Prior, Short pulse four wave mixing, **CUNY Staten Island Inauguration symposium**, New York, (1994).
63. Y.Prior, Short pulse probing of absorbing media, Israel Chemical Society, annual meeting, Rehovot, (1995) **Invited**.
64. Opher Kinrot, I.Sh.Averbukh and Y.Prior, Coherence Observation by Interference Noise, **CLEO/QELS**, Baltimore (1995), **Postdeadline**.
65. I.Sh.Averbukh, Opher Kinrot, and Y.Prior, Coherence Observation by Interference Noise - Spectroscopy and Short Pulse Characterization, **International Molecular Beams Conference**, Neve Ilan, (1995).
66. I.Sh.Averbukh, Opher Kinrot, and Y.Prior, Coherence Observation by Interference Noise, **Conference on Coherence and Quantum Optics**, Rochester (1995).
67. Y. Prior, I.Sh.Averbukh and Opher Kinrot, COIN - Coherence Observation by Interference Noise, **FRISNO 4**, Les Arcs, France (1996).

68. V. Milner, B.M.Chernobrod and Y. Prior, Coherent Population Trapping in a Highly Degenerate Open System, **FRISNO 4**, Les Arcs, France (1996).
69. Y. Prior, Propagation of Short Pulses in Optically Dense Media, **Conference on Time Dependent versus Time Independent Pictures**, Lab. Aime Cotton CNRS, Paris, France (1996). **Invited.**
70. Y. Prior, V. Milner and B.M.Chernobrod, Coherent Population Trapping in a Highly Degenerate Open System, **EQEC - European Quantum Electronics Conference**, Hamburg, Germany (1996).
71. Y. Prior, I.Sh.Averbukh and Opher Kinrot, COIN - Coherence Observation by Interference Noise, **CLEO/EUROPE**, Hamburg, Germany (1996).
72. J. Buhler, F. Meinecke and Y. Prior, Detection and Regrowth of Single Isolated Diamond Crystals, **ICNDST-5<sup>th</sup> International Conference on the New Diamond Science and Technology**, Tours, France (1996), **Postdeadline contribution upgraded to a plenary talk.**
73. Y. Prior, COIN - Coherence Observation by Interference Noise, **Israel Physical Society**, Beer Sheva, Israel, (1997), **Invited.**
74. Y. Prior, COIN - Coherence Observation by Interference Noise, **Israel Chemical Society**, Technion, Haifa, (1997), **Invited.**
75. Y. Prior, Nonlinear optical interactions of short pulses, **British Israel Symposium on Nonlinear and advanced Optics**, Yavne, Israel (1997), **Invited.**
76. Y. Prior, Multi Level Dark States - A Step Towards Laser Cooling of Molecules?, **Quantum Interference in Atoms and Molecules**, Ulm, Germany (1997) **Invited.**
77. Jurgen Buhler and Y. Prior, B-CARS (Backscattered Coherent Anti Stokes Raman Scattering) on thin CVD Diamond films, **FRISNO5**, Eilat, (1998).
78. Moshe Ben-Chorin, Silvia Chuartzman and Y. Prior, Distance measurements by white light coin interferometry, **FRISNO5**, Eilat, (1998).
79. Boris Chernobrod, Oleg Sedletsky, Ilya Averbukh, and Y. Prior, RESONANT SCANNING NEAR-FIELD MICROSCOPY, **FRISNO5**, Eilat, (1998).
80. Valery Milner and Y. Prior, Multi Level Dark States - Coherent Population Trapping by Elliptically Polarized (Possibly Incoherent) Light, **FRISNO5**, Eilat, (1998) **Invited.**
81. Valery Milner and Y. Prior, Spatial Orientation of Multilevel Elliptical Dark States and Hanle Resonances in Nonzero Magnetic Field, **FRISNO5**, Eilat, (1998)
82. Valery Milner and Y. Prior, Multi Level Dark States - Coherent Population Trapping by Elliptically Polarized (Possibly Incoherent) Light, **IQEC**, San Francisco, (1998).
83. Boris Chernobrod, Oleg Sedletsky, Ilya Averbukh, and Y. Prior, RESONANT SCANNING NEAR-FIELD MICROSCOPY, **Israel Physical Society**, Rehovot (1998).
84. Jurgen Buhler and Y. Prior, Backscattering CARS on CVD Diamond, **CLEO/EUROPE**, Glasgow, September (1998)
85. Valery Milner and Y. Prior, Biaxial Spatial Orientation of Dark Atoms, **EQEC**, Glasgow, September (1998)
86. Moshe Ben-Chorin, Silvia Chuartzman and Y. Prior, Absolute Distance measurements using a noisy interferometer, **CLEO/EUROPE**, Glasgow, September (1998)
87. Jurgen Buhler and Y. Prior, Backscattering CARS on CVD Diamond, **Diamond '98**, Greece, September (1998)
88. A. Eliahu, J. Buhler, M. Ben Chorin, H. Cohen and Y. Prior, Nano Particle Seeding and its Characterization by X ray Photoelectron Spectroscopy (XPS), **Diamond '98**, Greece, September (1998)
89. Y. Prior, Laser Processing of Diamonds - Gem Quality and Thin Films, **Annual Meeting of the Korean Vacuum Society**, Changwon, Korea (1998) **Invited**

90. Y. Prior, A. Eliahu, J. Buhler, M. Ben Chorin and H. Cohen, Nano Particle Seeding and its Characterization by X ray Photoelectron Spectroscopy (XPS), Annual Meeting of the Korean Vacuum Society, Changwon, Korea (1998)
91. Y. Prior and Valery Milner, Coherent population trapping in multi-level systems - the observation of elliptically dark states, International Laser Physics Workshop (LPHYS'99) Budapest, Hungary (1999) **Invited**.
92. I. Sh. Averbukh, B.M. Chernobrod and Y. Prior, Coherent Scattering For Efficient Near Field Microscopy, QELS, Baltimore (1999).
93. Y. Prior, S. Chuartzman, B.M. Chernobrod, G. Haase and I.Sh. Averbukh, Apertureless Near Field Microscopy Based on Enhanced Tip-Surface Electromagnetic Interactions, in Abstracts of Israel-Japan Bi-National Workshop on Near Field Optics and Related Technologies Kiryat Anavim, Israel (1999) **Invited**
94. Y. Prior, I.Pinkas and G.Knop, Femtosecond Preparation and Monitoring of Ground State Vibrational Wavepackets, Israel Germany Ultrafast meeting, Shfaim, Israel, (October 1999) **Invited**
95. Y. Prior, I.Pinkas and G.Knop, Selective Preparation of Ground State Vibrational Wavepackets on a Sub-picosecond Timescale, International workshop on Quantum Control and Information, Nof Genosar, Israel (1999) **Invited**
96. I.Pinkas, G.Knop and Y. Prior, Selective Preparation of Ground State Vibrational Wavepackets on a Sub-picosecond Timescale, FRISNO6, Les Houches, France (2000).
97. Y. Prior, Femtosecond preparation and monitoring of ground state vibrational wavepackets, **24<sup>th</sup> Informal Conference on Photochemistry**, San Juan, Puerto Rico, (2000) **Invited**
98. J. Fiurášek, B.M. Chernobrod, Y.Prior, and I.Sh. Averbukh, "Coherent light scattering and resonant energy transfer in apertureless near-field optical microscope" QELS'2000, San Francisco, (May 2000)
99. I. Pinkas, G. Knopp and Y.Prior, Vibrational Wavepackets High in the Electronic Ground State QELS'2000, San Francisco, (May 2000)
100. Y. Prior, I. Pinkas and G. Knopp, CARS monitoring of femtosecond prepared vibrational Wavepackets in the Electronic Ground State, James Franck Symposium, Kreuth, Germany, (February 2000) **Invited**
101. Tortschanoff, Ch. Warmuth, F. Milota, H.F. Kauffmann, M. Leibscher, Y. Prior, and I.Sh. Averbukh, "*Quantum Signatures of Wavepacket Dynamics from Fluorescence Interference Noise*", in Proceedings of the 240. WE-Heraeus-Seminar on "Driven Quantum Systems" (Tutzing, Germany, 17-21 September, 2000)
102. M. Leibscher, I.Sh. Averbukh, Y. Prior, M. Shapiro, Ch. Warmuth, A. Tortschanoff, F. Milota, W. Jakubetz, and H.F. Kauffmann, "*Molecular Wave Packet Revivals Probed by Phase-Randomized Fluorescence (COIN) Interferometry*", in book of Abstracts of the 13<sup>th</sup> European Conference on Dynamics of Molecular Collisions (MOLEC 2000) (Jerusalem, Israel, 17-22 September), p. 189
103. G. Knopp, Iddo Pinkas, Yehiam Prior, "*Femtosecond Time Resolved Preparation and Monitoring of Ground State Wavepackets in Di- and Triatomic Molecules*", 13<sup>th</sup> European Conference on Dynamics of Molecular Collisions (MOLEC 2000) Jerusalem, Israel, 17-22 September 2000
104. Yehiam Prior, Iddo Pinkas, Gregor Knopp, James Faeder And David Tannor, "*Femtosecond Selective Preparation Of Ground State Vibrational Wavepackets*", Israel Chemical Society Annual Meeting, Tel Aviv (February 2001) (**Invited**)
105. M. Leibscher, I. Sh. Averbukh, Y. Prior\*, M. Shapiro Ch. Warmuth, A. Tortschanoff, F. Milota W. Jakubetz H. F. Kauffmann "*Molecular wave packet revivals probed by phase-randomized fluorescence (COIN) interferometry*", CLEO/QELS 2001, Baltimore may (2001)

106. Yehiam Prior, "*Preparation of vibrational wavepackets by shaped femtosecond pulses*", Israel Chemical Society Annual Meeting, Tel Aviv (January 2003) **(Invited)**
107. I.Sh. Averbukh, R.Arviu, M.Leibschler and Y.Prior, "*Manipulating atoms and molecules by non-resonant fields: Optical kicking and shaking*", European Israeli Symposium on Nonlinear and Quantum Optics", Les Houches, France, (February, 2003), (invited)
- 108.Y.Prior and I.Sh. Averbukh,"*Laser cooling of atoms and molecules via optical shaking*", CLEO/QELS 2003,Baltimore, (June 2003)
- 109.Y. Prior, K.Zhang, V.Batenkov, Y.Paskover, J-H. Klein-Wiele and P.Simon "*Optimized Pulse Duration For Femtosecond Laser Ablation*", High Power laser ablation conference, HPLA 2004, Taos, New Mexico (April 2004)
- 110.Y. Prior, Kaiyin Zhang, V. Batenkov, Yuri Paskover, I.Sh. Averbukh, F. Korte and C. Fallnich, *Femtosecond laser material processing - how short is short?* Ultrafast processes 2004, Niigata, Japan (July 2004)
- 111.Y. Prior, Kaiyin Zhang, V. Batenkov, Yuri Paskover, I.Sh. Averbukh, F. Korte and C. Fallnich, *Femtosecond laser material processing - how short is short?* Nonlinear Optics, Waikoloa, Hawaii (August 2004)
- 112.Y. Prior, *Laser material processing – from nanoseconds to femtoseconds*, International Symposium on "Advanced Materials and Processing", Kharagpur, India (2004) **Invited**
- 113.Y.Prior and I.Sh. Averbukh, *Laser cooling by optical shaking with feedback*, Nonlinear Optics, Waikoloa, Hawaii (August 2004)
- 114.Y. Prior, *Laser material processing – from nanoseconds to femtoseconds*, Photonics 2004, Cochin, India (2004) **Invited**
- 115.Sharly Fleischer, I.Sh. Averbukh and Y. Prior, *Molecular alignment, rotational wavepacket revivals and isotope separation*, Nonlinear Optics, Waikoloa, Hawaii (August 2004) **(Postdeadline)**
- 116.Y. Prior, Laser material Processing, ICOLS 2005, Dehradun, India (2005) **Invited**
- 117.Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior. *Molecular alignment, wavepacket interference and isotope separation via rotational revivals*, 8<sup>th</sup> French Israeli Symposium on Nonlinear and Quantum Optics, Ein Bokek, Israel (2005). **Invited.**
- 118.Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior. "*Molecular alignment, wavepacket interference and isotope separation via rotational revivals*" CLEO/QELS, Baltimore (May 2005)
119. I.Sh. Averbukh, Sharly Fleischer, and Yehiam Prior, "Isotope-selective alignment of molecules", 36th Winter Colloquium on The Physics of Quantum Electronics, Snowbird, Utah (2006) **Invited**
- 120.Sharly Fleischer, I. Sh. Averbukh and Y. Prior, "Detection of a single component in a mixture", Laser Applications to Chemical, Security and Environmental Analysis (LACSEA 2006), Incline Village, Nevada, (2006).
- 121.Sharly Fleischer, I. Sh. Averbukh, and Yehiam Prior, "Isotope-selective control of quantum rotational control", ISF Workshop on Decoherence, Entanglement and Information in Complex Systems (DEICS III)/ ISF Workshop on Quantum Dynamics of Cold Atoms and Light (QUDAL), Eilat, Israel, Feb. 26- March 3, 2006.
- 122.Yuri Paskover and Yehiam Prior, Single Pulse Detection of Coherent Vibrational Dynamics, Decoherence, Entanglement Information in Complex Systems III / Quantum Dynamics of Cold Atoms and Light , Eilat (February 2006)
- 123.Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior. "Isotope selective control of quantum rotational dynamics", QUALS/DEICS, Eilat (February 2006)
- 124.Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior. "Isotope-selective control of molecular alignment", Laser Optics Internatoinal Conference, St.-Petersburg, Russia (June 2006) **Invited**

125. I. Sh. Averbukh, Sharly Fleischer, and Yehiam Prior, "Isotope-selective laser molecular alignment", **Coherent Control of the Fundamental Processes in Optics and X-ray-Optics (CCFP'2006)**, Nizhny Novgorod, Russia (June 2006) **Invited**
126. I. Sh. Averbukh, Sharly Fleischer, and Yehiam Prior, "Isotope-selective laser molecular alignment", **15th International laser physics workshop, (LPHYS'06)**, (Lausanne, July, 2006) **Invited**
127. Yuri Paskover, I. Sh. Averbukh and Yehiam Prior, Single-Shot Femtosecond CARS Spectroscopy, **15th International Conference on Ultrafast Phenomena**, Pacific Grove, California, USA (July 2006)
128. Yuri Paskover, I. Sh. Averbukh and Yehiam Prior, Single-Shot Femtosecond CARS Spectroscopy, **Frontiers in Optics**, Rochester, USA (October 2006)
129. Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior "Rotational Excitation Based Analytical Tools", **Frontiers in Optics**, Rochester, USA (October 2006)
130. I. Sh. Averbukh, Sharly Fleischer, and Yehiam Prior, "Spinning molecules selectively", **37th Winter Colloquium on The Physics of Quantum Electronics** (Snowbird, Utah - January, 2007) – **Invited Plenary talk**
131. Yuri Paskover, I. Sh. Averbukh and Yehiam Prior "Single-Shot Two Dimensional Time Resolved Four Wave Mixing, 72<sup>nd</sup> meeting of the **Israel Chemical Society**, Tel-Aviv (February 2007)
132. Andrey Kharchenko, Yuri Paskover and Yehiam Prior, Intrinsic Optical Heterodyne Detection in CARS Spectroscopy 72<sup>nd</sup> meeting of the **Israel Chemical Society**, Tel-Aviv (February 2007)
133. Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior "Selective optical addressing of close molecular species: The cases of N<sub>2</sub> molecular isotopes and Para/Ortho spin isomers", 72<sup>nd</sup> meeting of the **Israel Chemical Society**, Tel-Aviv (February 2007)
134. Yuri Paskover, I. Sh. Averbukh and Yehiam Prior, Single-Shot Two Dimensional Time Resolved CARS, **FRISNO-9**, Les Houches (February 2007)
135. Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior "Selective alignment of Spin Isomers: the case of Ortho and Para Nitrogen", **FRISNO-9** Les-Houches, France (February 2007)
136. Andrey Kharchenko, Yuri Paskover and Yehiam Prior, Intrinsic Optical Heterodyne Detection in CARS Spectroscopy, **FRISNO-9** Les-Houches, France (February 2007)
137. M. Y. Vilensky, Y. Prior, and **I. Sh. Averbukh**, Sisyphus-like cooling in a bistable optical resonator, **FRISNO-9** Les-Houches, France (February 2007) **Invited**
138. Y. Prior, Sharly Fleischer and I. Sh. Averbukh, The art of Spinning Molecules, 11<sup>th</sup> Meeting on Optical Engineering and Science, **OASIS**, Tel Aviv (March 2007) **Invited**
139. Sharly Fleischer, Ilya Sh. Averbukh, Yehiam Prior, "Selective Alignment of Molecular Spin Isomers", **ICQI/CQO9 2007** (Rochester, New-York, June 2007).
140. Yuri Paskover, Ilya Sh. Averbukh, Yehiam Prior, "Space-Time Maps for Single Pulse Four Wave Mixing", **ICQI/CQO9 2007** (Rochester, New-York, June 2007).
141. Yuri Paskover, I. Sh. Averbukh and Yehiam Prior, Single-Shot Two Dimensional Time Resolved Four Wave Mixing, **Time Resolved Vibrational Spectroscopy, TRVS-XIII**, Munich, Germany (June 2007), **Invited**
142. Alexander A Milner, Kaiyin Zhang, Michael Karpovski and Yehiam Prior, Apertureless near-field optics on commercial AFM: Tip to sample gap control, 17th international vacuum congress (ivc-17), 13th international **conference on surface sciences (icss-13)** and **international conference on nanoscience and technology**, Stockholm, Sweden (July 2007).
143. Yuri Paskover, I. Sh. Averbukh and Yehiam Prior, "Polarization Effects in Single-Shot Time Resolved Four Wave Mixing", **Frontiers in Optics**, San Jose, USA (September 2007).
144. Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior, "Selective Rotational Manipulations of Close Molecular Species -- isotopes and isomers", **APS**, (March 2008).

145. Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior, "Field-free unidirectional molecular rotation", **XVI International Conference on Ultrafast Phenomena**, Stresa Lago Maggiore, Italy, (June 2008).
146. Yehiam Prior, Sharly Fleischer, and I. Sh. Averbukh, "Strong-field selective manipulations in molecular mixtures", **17th International Laser Physics Workshop (LPHYS'08)**, Trondheim, Norway, (June 2008), **Invited**
147. I. Sh. Averbukh, Sharly Fleischer, and Yehiam Prior, "Selective Rotational Control in Molecular Mixtures", **VIth Congress of the International Society for Theoretical Chemical Physics** Vancouver, Canada, July 2008) **Invited Plenary Lecture**
148. Yehiam Prior, Kaiyin Zhang and Alexander Milner, "Floating Tip Nanolithography", **Photonics 2008**, Delhi, India (December 2008), **Invited**
149. Yehiam Prior, Sharly Fleischer and Ilya Averbukh, Molecular Alignment – What Is It Good For? 74<sup>nd</sup> meeting of the **Israel Chemical Society**, Tel-Aviv (February 2009) **Invited Plenary Talk**
150. A. Shalit, Y. Paskover, Y. Prior, Combined Time Frequency Detection by Single Shot Four Wave Mixing, **FRISNO-10**, Ein Gedi, Israel (February 2009), **Invited**
151. Alexander A Milner and Yehiam Prior, Tip Assisted Laser Induced Surface Nanolithography, **CLEO/IQEC**, Baltimore, Maryland, USA (June, 2009)
152. Sharly Fleischer, Yuri Khodorkovsky, I. Sh. Averbukh and Yehiam Prior, Field-free unidirectional molecular rotation following excitation by two ultrashort pulses, **CLEO/IQEC**, Baltimore, Maryland, USA (June, 2009)
153. Andrey Shalit, Yuri Paskover, and Yehiam Prior, Combined Time Frequency Detection by Single Shot Four Wave Mixing, **CLEO/IQEC**, Baltimore, Maryland, USA (June, 2009)
154. Yehiam Prior, Nanolithography, **International Workshop on Nanophotonics and Biophotonics**, Recife, Brazil (April 2009) **Invited**
155. Yehiam Prior, Specificity and symmetry in laser induced rotational alignment, **Gordon Research conference on Coherent Control**, New Hampshire, USA (August 2009), **Invited**
156. Sharly Fleischer, Yuri Khodorkovsky, Yehiam Prior, and Ilya Sh. Averbukh, Laser-controlled molecular propeller, **18th International Laser Physics Workshop (LPHYS'09)**, Barcelona, Spain (July 2009), **Invited**
157. Andrey Shalit, Yuri Paskover, and Yehiam Prior, Single Shot, Combined Time Frequency Four Wave Mixing, **18th International Laser Physics Workshop (LPHYS'09)**, Barcelona, Spain (July 2009), **Invited**