

SCIENTIFIC PUBLICATIONS OF IAN KOGAN

- 1) CALCULATION OF MATRIX ELEMENT FOR PROTON DECAY, with V.S. Berezinsky and B.L. Ioffe, Phys. Lett. B105, 33, 1981.
- 2) ASYMPTOTICALLY FREE MODELS OF THE SU(5) GRAND UNIFICATION, with A.V. Zhelonkin and K.A. Ter-Martirosian, Yad. Fiz. 34, 1630, 1981.
- 3) THE $g_{\omega\rho\pi}$ COUPLING CONSTANT FROM QCD SUM RULES, with V.L. Eletsky and B.L. Ioffe, Phys. Lett. B122, 423, 1983.
- 4) CALCULATION OF ELECTROMAGNETIC $\rho\pi$ FORM FACTOR FROM QCD SUM RULES, with V.L. Eletsky, Z. Phys. C20, 357, 1983.
- 5) ONCE MORE ON WEAK RADIATIVE DECAYS, with M. Shifman, Sov. J. Nucl. Phys. 38, 628, 1983.
- 6) ON DECAY OF THE KALUZA-KLEIN VACUUM, with M.B. Voloshin and N.A. Voronov, Phys. Lett. B130, 174, 1983.
- 7) CALCULATION of g_A IN QUANTUM CHROMODYNAMICS, with V.M. Belyaev, JETP Lett. 37, 730, 1983.
- 8) SPONTANEOUS COMPACTIFICATION IN THE KALUZA-KLEIN MODELS AND THE CASIMIR EFFECT, with N.A. Voronov, JETP Lett. 38, 311, 1983.
- 9) AXIAL AND VECTOR CONSTANTS OF NUCLEON OCTET IN QCD, with V.M. Belyaev, Phys. Lett. B136, 273, 1984.
- 10) CALCULATION OF THE $D^+ \rightarrow \bar{K}_0 e^+ \nu_e$ TRANSITION FORM-FACTOR AND THE U_{cs} ELEMENT OF THE KOBAYASHI-MASKAWA MATRIX, with T.M. Aliev and V.L. Eletsky, Sov. J. Nucl. Phys. 40, 527, 1984.
- 11) VECTOR AND AXIAL CONSTANTS OF BARYON DECUPLET, with V.M. Belyaev and B.Yu. Blok, Sov. J. Nucl. Phys. 41, 280, 1985.
- 12) CALCULATION OF THE QUARK CONDENSATE MAGNETIC SUSCEPTIBILITY BY QCD SUM RULE METHOD, with V.M. Belyaev, Yad. Fiz. 40, 1035, 1984.

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13) CALCULATION OF $\omega \rightarrow \rho\pi$ TRANSITION CONSTANT AND THE ELECTROMAGNETIC $\rho\pi$ AND $\omega\pi$ FORM FACTORS FROM THE QCD SUM RULES, with V.L. Eletsky, *Yad. Fiz.* 39, 138, 1984.

14) THE NUCLEON AXIAL ISOSCALAR COUPLING CONSTANT AND THE BJORKEN SUM RULE, with V.M. Belyaev and B.L. Ioffe, *Phys. Lett.* B151, 290, 1985.

15) WESS-ZUMINO TERMS IN FERMION DETERMINANTS IN ODD-DIMENSIONAL THEORIES, with A.Yu. Morozov, *Sov. J. Nucl. Phys.* 41, 693, 1985.

16) CALCULATION OF $D^* \rightarrow D\gamma$ AND $D^* \rightarrow D\pi$ DECAY WIDTHS FROM QCD SUM RULES, with V.L. Eletsky, *Z. Phys.* C28, 155, 1985.

17) SPONTANEOUS BREAKING OF CHIRAL SYMMETRY FOR REAL FERMIONS AND $\mathcal{N} = 2$ SUSY YANG-MILLS THEORY, with M. Shifman and M.I. Vysotsky, *Sov. J. Nucl. Phys.* 42, 318, 1985.

18) ON COSMOLOGICAL SOLUTIONS IN $D = 11$ SUPERGRAVITY, with A.Yu. Morozov, Preprint ITEP-84-142.

19) EFFECTS OF A WESS-ZUMINO TERM IN THE THEORY OF A $D=11$ SUPERGRAVITY, with A.Yu. Morozov, *JETP Lett.* 39, 586, 1984.

20) FINITENESS OF $\mathcal{N} = 4$ SUPERSYMMETRIC SIGMA MODELS, with A.Yu. Morozov and A.M. Perelomov, *JETP Lett.* 40, 767, 1984.

21) STRUCTURE OF $(2 + 1)$ -DIMENSIONAL PHOTODYNAMICS, with A.Yu. Morozov, *Sov. Phys. JETP* 61, 1, 1985.

22) CONSTRUCTION OF VALLEYS IN A SUPERSYMMETRIC MODEL WITH THE GAUGE GROUP $E(6)$ AND A MATTER 27-PLET, with A.Yu. Morozov, M.A. Olshanetsky, and M. Shifman, *Sov. J. Nucl. Phys.* 43, 1022, 1986.

23) COSMOLOGICAL CONSEQUENCES OF THE $E(8) \times E(8)$ SUPERSTRING MODELS, with M.Yu. Khlopov, *Yad. Fiz.* 44, 1344, 1986.

24) HOMOTOPICALLY STABLE PARTICLES IN THE SUPERSTRING THEORY, with M.Yu. Khlopov, *Sov. J. Nucl. Phys.* 46, 193, 1987.

25) QUANTIZATION OF THE MASS OF A BLACK HOLE IN STRING THEORY, *JETP Lett.* 44: 267, 1986.

26) VORTICES ON THE WORLD SHEET AND STRING'S CRITICAL DYNAMICS, *JETP Lett.* 45, 709, 1987.

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- 27) BOUND FERMIONS AND SUPERCONDUCTING GROUND STATE IN (2+1)-DIMENSIONAL GAUGE THEORY WITH TOPOLOGICAL MASS (THE CHERN-SIMONS) TERM, JETP Lett. 49, 225, 1989.
- 28) THE OFF-SHELL CLOSED STRINGS AS THE TOPOLOGICAL OPEN MEMBRANES: DYNAMICAL TRANSMUTATION OF WORLD SHEET DIMENSION, Phys. Lett. B231, 377, 1989.
- 29) NEW EFFECTS IN THE SCATTERING OF CHARGE PARTICLES ON THE COSMIC STRING, with K.G. Selivanov, Sov. Phys. JETP 70, 217, 1990.
- 30) ON THE INTERACTIONS OF CHARGED PARTICLES WITH COSMIC STRING, with K.G. Selivanov, Int. J. Mod. Phys. A6, 59, 1991.
- 31) ONCE MORE ON THE TOPOLOGICALLY MASSIVE GAUGE THEORY, Preprint ITEP-89-163.
- 32) SUPERCONDUCTIVITY OF THE DOPED MOTT INSULATOR IN THE CSL PHASE, with D.V. Khveshchenko, Mod. Phys. Lett. B4, 95, 1990.
- 33) VORTICES ON THE STRING AND SUPERSTRING WORLD SHEETS, with A.A. Abrikosov, Jr., Int. J. Mod. Phys. A6, 1501, 1991.
- 34) THE GENERATING FUNCTION FOR THE 2-DIMENSIONAL WZW MODEL CORRELATORS AND THE SUGAWARA CONSTRUCTION FROM THE (2+1)D CHERN-SIMONS THEORY, with V.V. Fock, Mod. Phys. Lett. A5, 1365, 1990.
- 35) PAIRING WITH FRACTIONAL ANGULAR AND 'SPINOR' GAP, with D.V. Khveshchenko, Preprint ICTP/89/426.
- 36) PARITY VIOLATION AND SUPERCONDUCTIVITY IN DOPED MOTT INSULATORS, with D.V. Khveshchenko, Preprint ICTP/89/427.
- 37) THE EQUAL CHARGE ATTRACTION IN THE (2+1) TOPOLOGICALLY MASSIVE NONABELIAN GAUGE THEORIES, with I.V. Polyubin, Phys. Lett. B252, 237, 1990.
- 38) SELFCONSISTENT RENORMALIZATION OF THE CHERN-SIMONS TERM AND CORRELATIONS IN THE ANYONIC SYSTEM, with D.V. Khveshchenko, JETP Lett. 51, 548, 1990.
- 39) VORTICES IN THE LATTICE MODEL OF PLANAR NEMATIC, with D.V. Khveshchenko and S.K. Nechaev, Preprint ITEP-90-77.

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- 40) TOPOLOGICALLY MASSIVE GAUGE THEORIES: WHO NEEDS THEM AND WHY? *Comments Nucl. Part. Phys.* A19, 305, 1990.
- 41) HAGEDORN PHASE TRANSITION FOR THE CLOSED STRING AS THE ANYONIC SUPERCONDUCTING PHASE TRANSITION IN THE OPEN TOPOLOGICAL MEMBRANE, *Phys. Lett.* B255, 31, 1991.
- 42) THREE-DIMENSIONAL TOPOLOGICAL FIELD THEORIES AND STRINGS, with S. Carlip, *Mod. Phys. Lett.* A6, 171, 1991.
- 43) QUANTUM MECHANICS ON THE MODULI SPACE FROM THE QUANTUM GEOMETRODYNAMICS OF THE OPEN TOPOLOGICAL MEMBRANE, *Phys. Lett.* B256, 369, 1991.
- 44) THE $R \rightarrow \alpha'/R$ SPACE-TIME DUALITY FROM THE (2+1)D POINT OF VIEW, *Mod. Phys. Lett.* A6, 501, 1991.
- 45) ANYON SUPERCONDUCTIVITY BEYOND THE RANDOM PHASE APPROXIMATION, with D.V. Khveshchenko, *Int. J. Mod. Phys.* B5, 2355, 1991.
- 46) INDUCED MAGNETIC MOMENT FOR ANYONS, *Phys. Lett.* B262, 83, 1991.
- 47) ON THE ORIGIN OF W ALGEBRAS, with A. Bilal and V.V. Fock, *Nucl. Phys.* B359, 635, 1991.
- 48) QUANTUM BLACK HOLES, STRINGS AND SIGMA MODELS AT $\theta = \pi$: HAWKING QUANTUM EVAPORATION AS WORLD SHEET RG FLOW, *Mod. Phys. Lett.* A6, 3297, 1991.
- 49) TIME AS LIOUVILLE FIELD AND WORLD SHEET RG EQUATIONS AS EVOLUTION EQUATIONS: VACUUM TRANSITIONS, QUANTUM MIXING AND COSMOLOGICAL CONSTANT PROBLEM, Preprint UBC-TP-91-13.
- 50) VACUUM INSTABILITY IN THE (2+1) TOPOLOGICALLY MASSIVE ELECTRODYNAMICS, with I.V. Polyubin, preprint ITEP-91-13.
- 51) A SUM RULE CALCULATION OF THE NEUTRON ELECTRIC DIPOLE MOMENT FROM A QUARK CHROMOELECTRIC DIPOLE COUPLING, with Daniel Wyler, *Phys. Lett.* B274, 100, 1992.
- 52) THREE-DIMENSIONAL GRAVITY AND STRING GHOSTS, with S. Carlip, *Phys. Rev. Lett.* 67, 3647, 1991.

- 53) REGULARIZATION OF THE AREA INTEGRATION AND IMAGINARY PARTS OF THE CORRELATION FUNCTIONS IN LIOUVILLE THEORY, *Phys. Lett.* B265, 269, 1991.
- 54) QUANTUM LIOUVILLE THEORY FROM TOPOLOGICALLY MASSIVE GRAVITY : (1+1) COSMOLOGICAL CONSTANT AS SQUARE OF (2+1) GRAVITON MASS, *Nucl. Phys.* B375, 362, 1992.
- 55) CHARGE DISTRIBUTION IN 2-D ELECTROSTATICS: A SHELL MODEL, with A.M. Perelomov and G.W. Semenoff, *Phys. Rev.* B45, 12084, 1992.
- 56) MASSLESS FERMIONS IN KALUZA-KLEIN MODELS: $SU(N)$ GAUGE FIELDS, Z_N SYMMETRY AND STABILITY OF THE METASTABLE VACUUM, with V.M. Belyaev, *Mod. Phys. Lett.* A7, 117, 1992.
- 57) QUANTUM VERSUS CONTINUUM SPECTRUM OF COMPACTIFICATION RADIUS IN STRING THEORY, *Phys. Lett.* B281, 233, 1992.
- 58) Z_N DOMAINS IN GAUGE THEORIES WITH FERMIONS AT HIGH TEMPERATURE, with V.M. Belyaev, G.W. Semenoff, and Nathan Weiss, *Phys. Lett.* B277, 331, 1992.
- 59) SUPERSYMMETRY AND TENSOR COUPLING IN $\pi^- \rightarrow e^- \bar{\nu}_e \gamma$ DECAY, with V.M. Belyaev, *Phys. Lett.* B280, 238, 1992.
- 60) INVESTIGATIONS OF PAIRING IN ANYON SYSTEMS, with M. Dobroliubov and G. Semenoff, cond-mat/9204005.
- 61) AREA PRESERVING DIFFEOMORPHISMS AND W_∞ SYMMETRY IN A (2+1)-CHERN-SIMONS THEORY, *Mod. Phys. Lett.* A7, 3717, 1992.
- 62) AREA LAW AND CONTINUUM LIMIT IN INDUCED QCD, with A. Morozov, G.W. Semenoff, and N. Weis, *Nucl. Phys.* B395, 547, 1993.
- 63) FRACTIONAL SPIN, MAGNETIC MOMENT AND THE SHORT RANGE INTERACTIONS OF ANYONS, with G.W. Semenoff, *Nucl. Phys.* B368, 718, 1992.
- 64) INDUCED QCD AND HIDDEN LOCAL Z_N SYMMETRY, with G. Semenoff and N. Weiss, *Phys. Rev. Lett.* 69, 3435, 1992.
- 65) ABOUT SOME EXACT SOLUTIONS FOR (2+1) GRAVITY COUPLED TO GAUGE FIELDS, *Mod. Phys. Lett.* A7, 2341, 1992.

2340 *List of publications*

- 66) KALUZA-KLEIN AND AXION DOMAIN WALLS: INDUCED CHARGE AND MASS TRANSMUTATION, *Phys. Lett.* B299, 16, 1993.
- 67) HADRON FORM-FACTORS IN QCD, with V.M. Belyaev, *Int. J. Mod. Phys.* A8, 153, 1993.
- 68) CONTINUUM LIMITS OF 'INDUCED QCD': LESSONS OF THE GAUSSIAN MODEL AT $D = 1$ AND BEYOND, with A. Morozov, G.W. Semenoff, and N. Weiss, *Int. J. Mod. Phys.* A8, 1411, 1993.
- 69) INDUCED QCD WITHOUT LOCAL CONFINEMENT, with M.I. Dobroliubov, G.W. Semenoff, and N. Weiss, *Phys. Lett.* B302, 283, 1993.
- 70) HAMILTONIAN APPROACH TO 2D DILATON GRAVITIES AND INVARIANT ADM MASS, with Adel Bilal, *Phys. Rev.* D47, 5408, 1993.
- 71) THE SPECTRUM OF TOPOLOGICALLY MASSIVE QUANTUM ELECTRODYNAMICS, with M. Dobroliubov, David Eliezer, G. Semenoff, and R. Szabo, *Mod. Phys. Lett.* A8, 2177, 1993.
- 72) TWO-DIMENSIONAL FIELD THEORY DESCRIPTION OF DISORIENTED CHIRAL CONDENSATE, *Phys. Rev.* D48, 3971, 1993.
- 73) AXIONS, MONOPOLES AND COSMIC STRINGS, hep-ph/9305307.
- 74) RADIATIVE CORRECTIONS TO ANYON SCATTERING, with R.J. Szabo and G.W. Semenoff, *Nucl. Phys.* B392, 700, 1993.
- 75) GRAVITATIONAL DRESSING OF RENORMALIZATION GROUP, with I. Klebanov and A. Polyakov, *Phys. Rev. Lett.* 71, 3243, 1993.
- 76) SQUEEZED QUANTUM STATE OF DISORIENTED CHIRAL CONDENSATE, *JETP Lett.* 59, 307, 1994.
- 77) HOT GAUGE THEORIES AND Z_N PHASES, *Phys. Rev.* D49, 6799, 1994.
- 78) THE GOLDBERGER-TREIMAN RELATION, g_A AND $g_{\pi NN}$ AT $T \neq 0$, with V.L. Eletsky, *Phys. Rev.* D49, 3083, 1994.
- 79) AREA PRESERVING DIFFEOMORPHISMS, W_∞ AND $U_q(sl(2))$ IN CHERN-SIMONS THEORY AND QUANTUM HALL SYSTEM, *Int. J. Mod. Phys.* A9, 3887, 1994.
- 80) QUANTUM PHENOMENOLOGY FOR THE DISORIENTED CHIRAL CONDENSATE, with R.D. Amado, *Phys. Rev.* D51, 190, 1995.

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- 81) GRAVITATIONALLY DRESSED CONFORMAL FIELD THEORY AND EMERGENCE OF LOGARITHMIC OPERATORS, with Adel Bilal, hep-th/9407151.
- 82) BLACK HOLE SPECTRUM, HORIZON QUANTIZATION AND ALL THAT: (2+1)-DIMENSIONAL EXAMPLE, hep-th/9412232.
- 83) VARIATIONAL APPROACH TO THE QCD WAVE FUNCTIONAL: DYNAMICAL MASS GENERATION AND CONFINEMENT, with Alex Kovner, Phys. Rev. D52, 3719, 1995.
- 84) COMPACT QED IN THREE-DIMENSIONS: A SIMPLE EXAMPLE OF A VARIATIONAL CALCULATION IN A GAUGE THEORY, with Alex Kovner, Phys. Rev. D51, 1948, 1995.
- 85) ON GRAVITATIONAL DRESSING OF 2-D FIELD THEORIES IN CHIRAL GAUGE, with Adel Bilal, Nucl. Phys. B449, 569, 1995.
- 86) TWO PHASES OF SUPERSYMMETRIC GLUODYNAMICS, with M. Shifman, Phys. Rev. Lett. 75, 2085, 1995.
- 87) TOPOLOGICALLY MASSIVE GAUGE THEORY WITH O(2) SYMMETRY, with Kai-Ming Lee, Phys. Lett. B367, 195, 1996.
- 88) THE TWO PHASES OF TOPOLOGICALLY MASSIVE COMPACT U(1) THEORY, with Alex Kovner, Phys. Rev. D53, 4510, 1996.
- 89) MATCHING CONDITIONS AND DUALITY IN $\mathcal{N} = 1$ SUSY GAUGE THEORIES IN THE CONFORMAL WINDOW, with M. Shifman, and A. Vainshtein, Phys. Rev. D53, 4526, 1996, (E) D59, 109903, 1999.
- 90) TWO-DIMENSIONAL QCD WITH MATTER IN ADJOINT REPRESENTATION: WHAT DOES IT TEACH US? with A. Zhitnitsky, Nucl. Phys. B465, 99, 1996.
- 91) LOGARITHMIC OPERATORS AND HIDDEN CONTINUOUS SYMMETRY IN CRITICAL DISORDERED MODELS, with J.S. Caux, and A.M. Tsvelik, Nucl. Phys. B466, 444, 1996.
- 92) WORLD SHEET LOGARITHMIC OPERATORS AND TARGET SPACE SYMMETRIES IN STRING THEORY. with Nick E. Mavromatos, Phys. Lett. B375, 111, 1996.
- 93) BOUNDARY CONDITIONS AND HETEROTIC CONSTRUCTION IN TOPOLOGICAL MEMBRANE THEORY, with Leith Cooper, Phys. Lett. B383, 271, 1996.

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- 94) THE LIOUVILLE THEORY AS A MODEL FOR PRELOCALIZED STATES IN DISORDERED CONDUCTORS, with C. Mudry and A.M. Tsvelik, Phys. Rev. Lett. 77, 707, 1996.
- 95) D-BRANE RECOIL AND LOGARITHMIC OPERATORS, with Nick E. Mavromatos and John F. Wheeler, Phys. Lett. B387, 483, 1996.
- 96) LOGARITHMIC OPERATORS AND DYNAMICAL EXTENSION OF THE SYMMETRY GROUP IN THE BOSONIC $SU(2)_0$ AND SUSY $SU(2)_2$ WZNW MODELS, with J.S. Caux, A. Lewis, and A.M. Tsvelik, Nucl. Phys. B489, 469, 1997.
- 97) CONFORMAL DIMENSIONS FROM TOPOLOGICALLY MASSIVE QUANTUM FIELD THEORY, with G. Amelino-Camelia and R.J. Szabo, Nucl. Phys. B480, 413, 1996.
- 98) GAUGE DRESSING OF 2D FIELD THEORIES, with Alex Lewis and Oleg A. Solovev, Int. J. Mod. Phys. A12, 2425, 1997.
- 99) THREE-DIMENSIONAL DESCRIPTION OF THE $\Phi_{1,3}$ DEFORMATION OF MINIMAL MODELS, Phys. Lett. B390, 189, 1997.
- 100) GRAVITATIONAL DRESSING OF AHARONOV-BOHM AMPLITUDES. with Giovanni Amelino-Camelia and Richard J. Szabo, Int. J. Mod. Phys. A12, 1043, 1997.
- 101) STRING WINDING MODES FROM CHARGE NONCONSERVATION IN COMPACT CHERN-SIMONS THEORY, with Leith Cooper and Kai-Ming Lee, Phys. Lett. B394, 67, 1997.
- 102) GAUGED KNIZHNIK-ZAMOLODCHIKOV EQUATION, with Alex Lewis and Oleg A. Solovev, Nucl. Phys. Proc. Suppl. 56B, 154, 1997.
- 103) D-BRANE CONFIGURATIONS AND NICOLAI MAP IN SUPER-SYMMETRIC YANG-MILLS THEORY, with G.W. Semenoff and R.J. Szabo, Mod. Phys. Lett. A12, 183, 1997.
- 104) DYNAMICAL DESCRIPTION OF SPECTRAL FLOW IN $\mathcal{N} = 2$ SUPERCONFORMAL FIELD THEORIES, with Leith Cooper and Richard J. Szabo, Nucl. Phys. B498, 492, 1997.
- 105) KNIZHNIK-ZAMOLODCHIKOV TYPE EQUATIONS FOR GAUGED WZNW MODELS, with Alex Lewis and Oleg A. Solovev, Int. J. Mod. Phys. A13, 1345, 1998.

Ian Kogan 2343

- 106) LIOUVILLE DRESSED WEIGHTS AND RENORMALIZATION OF SPIN IN TOPOLOGICALLY MASSIVE GRAVITY, with Richard J. Szabo, Nucl. Phys. B502, 383, 1997.
- 107) COMPACT QED IN THREE DIMENSIONS WITH θ TERM AND AXIONIC CONFINING STRINGS, with William E. Brown, Phys. Rev. D56, 3718, 1997.
- 108) ND TADPOLES AS NEW STRING STATES AND QUANTUM MECHANICAL PARTICLE-WAVE DUALITY FROM WORLD SHEET T DUALITY, with John F. Wheeler, Phys. Lett. B403, 31, 1997.
- 109) MATRIX STRINGS IN TWO-DIMENSIONAL YANG-MILLS THEORY, with Richard J. Szabo, Phys. Lett. B404, 276, 1997.
- 110) A VARIATIONAL APPROACH TO THE QCD WAVE FUNCTIONAL: CALCULATION OF THE QCD β FUNCTION, with William E. Brown, Int. J. Mod. Phys. A14, 799, 1999.
- 111) ORIGIN OF LOGARITHMIC OPERATORS IN CONFORMAL FIELD THEORIES, with Alex Lewis, Nucl. Phys. B509, 687, 1998.
- 112) MIRROR MAPS IN CHERN-SIMONS GAUGE THEORY, with Leith Cooper and Richard J. Szabo, Annals Phys. 268, 61, 1998.
- 113) COS(M)OLOGICAL SOLUTIONS IN M THEORY AND STRING THEORY, with Nemanja Kaloper and Keith A. Olive, Phys. Rev. D57, 7340, 1998, (E) D60, 049901, 1999.
- 114) MORE ON SUPERSYMMETRIC DOMAIN WALLS, N COUNTING AND GLUED POTENTIALS, with Alex Kovner and M. Shifman, Phys. Rev. D57, 5195, 1998.
- 115) VACUUM INSTABILITY IN CHERN-SIMONS THEORY, NULL VECTORS AND TWO-DIMENSIONAL LOGARITHMIC OPERATORS, with Alex Lewis, Phys. Lett. B431, 77, 1998.
- 116) DUAL RESPONSE MODELS FOR THE FRACTIONAL QUANTUM HALL EFFECT. with L. Cooper, A. Lopez, and R.J. Szabo, Phys. Rev. B58, 7893, 1998.
- 117) D INSTANTONS ON THE BOUNDARY, with Gloria Luzon, Nucl. Phys. B539, 121, 1999.

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- 118) CHIRAL SYMMETRY BREAKING WITHOUT BILINEAR CONDENSATES, UNBROKEN AXIAL Z_N SYMMETRY, AND EXACT QCD INEQUALITIES, with Alex Kovner and M. Shifman, Phys. Rev. D59, 016001, 1999.
- 119) GRAVITATIONALLY DRESSED RG FLOWS AND ZIGZAG INVARIANT STRINGS, with O.A. Solovev, Phys. Lett. B442, 136, 1998.
- 120) SCALING LAWS FOR THE MARKET MICROSTRUCTURE OF THE INTERDEALER BROKER MARKET, with David Eliezer, cond-mat/9808240.
- 121) INSTANTONS AND THE QCD VACUUM WAVE FUNCTIONAL, with William Brown, Juan P. Garrahan and Alex Kovner, Phys. Rev. D59, 034015, 1999.
- 122) ON STRINGY THRESHOLDS IN SYM / AdS THERMODYNAMICS, with J.L.F. Barbon and E. Rabinovici, Nucl. Phys. B544, 104, 1999.
- 123) INDUCED DILATON IN TOPOLOGICALLY MASSIVE QUANTUM FIELD THEORY, with Arshad Momen and Richard J. Szabo, JHEP 9812, 013, 1998.
- 124) LECTURES ON TOPOLOGICAL MEMBRANES, in *Particles and Fields*, Proceedings of the 9TH Jorge Andre Swieca School, Campos do Jordao, Brazil, 1997. Edited by J.C.A. Barata, A.P.C. Malbouisson, and S.F. Novaes (Singapore, World Scientific, 1998)
- 125) ON ZIGZAG INVARIANT STRINGS, with Oleg A. Solovev, Fortsch. Phys. 48, 151, 2000.
- 126) STRING THERMODYNAMICS IN D-BRANE BACKGROUNDS, with S.A. Abel, J.L.F. Barbon, and E. Rabinovici, JHEP 9904. 015, 1999.
- 127) SCALE INVARIANCE OF DIRAC CONDITION $g_e g_m = 1$ IN TYPE-0 STRING APPROACH TO GAUGE THEORY, with Gloria Luzon, Phys. Lett. B457, 70, 1999.
- 128) SINGLETONS AND LOGARITHMIC CFT IN ADS/CFT CORRESPONDENCE, Phys. Lett. B458, 66, 1999.
- 129) COSMOLOGICAL THREE-BRANE SOLUTIONS, with Panagiota Kanti, Keith A. Olive, and Maxim Pospelov, Phys. Lett. B468, 31, 1999.
- 130) SOME THERMODYNAMICAL ASPECTS OF STRING THEORY, with S.A. Abel, J.L.F. Barbon and E. Rabinovici, hep-th/9911004.

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- 131) WHAT DOES E(8) KNOW ABOUT ELEVEN DIMENSIONS?
with John F. Wheeler, *Mod. Phys. Lett.* A15, 851, 2000.
- 132) TOWARDS A FIELD THEORY OF THE PLATEAU TRANSITIONS IN THE INTEGER QUANTUM HALL EFFECT, with Miraculous J. Bhaseen, Oleg A. Solovov, Nobuhiko Taniguchi, and Alexei M. Tsvetik, *Nucl. Phys.* B580, 688, 2000.
- 133) SINGLE BRANE COSMOLOGICAL SOLUTIONS WITH A STABLE COMPACT EXTRA DIMENSION, with Panagiota Kanti, Keith A. Olive, and Maxim Pospelov, *Phys. Rev.* D61, 106004, 2000.
- 134) GAUGE INVARIANT VARIATIONAL APPROACH WITH FERMIONS: THE SCHWINGER MODEL, with William E. Brown, Juan P. Garrahan, and Alex Kovner, *Phys. Rev.* D62, 016004, 2000.
- 135) LOGARITHMIC OPERATORS IN THE THEORY OF PLATEAU TRANSITION, with Alexei M. Tsvetik, *Mod. Phys. Lett.* A15, 931, 2000.
- 136) A THREE THREE-BRANE UNIVERSE: NEW PHENOMENOLOGY FOR THE NEW MILLENNIUM? with Stavros Mouslopoulos, Antonios Papazoglou, Graham G. Ross, and Jose Santiago, *Nucl. Phys.* B584, 313, 2000.
- 137) BRANE UNIVERSE AND MULTIGRAVITY: MODIFICATION OF GRAVITY AT LARGE AND SMALL DISTANCES, with Graham G. Ross, *Phys. Lett.* B485, 255, 2000.
- 138) BOUNDARY LOGARITHMIC CONFORMAL FIELD THEORY, with John F. Wheeler, *Phys. Lett.* B486, 353, 2000.
- 139) TOROIDAL COMPACTIFICATION IN STRING THEORY FROM CHERN–SIMONS THEORY, with P. Castelo Ferreira and Bayram Tekin, *Nucl. Phys.* B589, 167, 2000.
- 140) HOLOGRAPHIC RENORMALIZATION GROUP FLOW, WILSON LOOPS AND FIELD THEORY β FUNCTIONS, with Martin Schvellinger and Bayram Tekin, *Nucl. Phys.* B588, 213, 2000.
- 141) HAGEDORN INFLATION OF D-BRANES, with Steven A. Abel and Katherine Freese, *JHEP* 0101, 039, 2001.
- 142) MULTI-BRANE WORLDS AND MODIFICATION OF GRAVITY AT LARGE SCALES, with Stavros Mouslopoulos, Antonios Papazoglou, and Graham G. Ross, *Nucl. Phys.* B595, 225, 2001.

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- 143) TOPOLOGICAL EFFECTS IN OUR BRANE WORLD FROM EXTRA DIMENSIONS, with G.R. Dvali and M. Shifman, Phys. Rev. D62, 106001, 2000.
- 144) DECONFINING PHASE TRANSITION IN (2+1) DIMENSIONS: THE GEORGI-GLASHOW MODEL, with Gerald V. Dunne, Alex Kovner, and Bayram Tekin, JHEP 0101, 032, 2001.
- 145) THE $m \rightarrow 0$ LIMIT FOR MASSIVE GRAVITON IN dS_4 AND AdS_4 : HOW TO CIRCUMVENT THE VAN DAM-VELTMAN-ZAKHAROV DISCONTINUITY, with Stavros Mouslopoulos and Antonios Papazoglou, Phys. Lett. B503, 173, 2001.
- 146) A NEW BIGRAVITY MODEL WITH EXCLUSIVELY POSITIVE BRANES, with Stavros Mouslopoulos and Antonios Papazoglou, Phys. Lett. B501, 140, 2001.
- 147) DISORDERED DIRAC FERMIONS: THE MARRIAGE OF THREE DIFFERENT APPROACHES, with M.J. Bhaseen, J.S. Caux, and A.M. Tsvelik, Nucl. Phys. B618, 465, 2001.
- 148) WORLD SHEET LOGARITHMIC CFT IN AdS STRINGS, GHOST MATTER MIXING AND M-THEORY, with Dimitri Polyakov, Int. J. Mod. Phys. A16, 2559, 2001.
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- 154) DECONFINEMENT AT $N > 2$: $SU(N)$ GEORGI–GLASHOW MODEL IN (2+1) DIMENSIONS, with Alex Kovner and Bayram Tekin, JHEP 0105, 062, 2001.
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- 157) $SU(2)_0$ AND $OSp(2|2)_{-2}$ WZNW MODELS: TWO CURRENT ALGEBRAS, ONE LOGARITHMIC CFT, with A. Nichols, Int. J. Mod. Phys. A17, 2615, 2002.
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- 160) MULTI(SCALE)GRAVITY: A TELESCOPE FOR THE MICRO-WORLD, astro-ph/0108220.
- 161) DUALITIES IN QUANTUM HALL SYSTEM AND NONCOMMUTATIVE CHERN–SIMONS THEORY, with A. Gorsky and C. Korthals-Altes, JHEP 0201, 002, 2002.
- 162) CONFORMAL ORBIFOLD PARTITION FUNCTIONS FROM TOPOLOGICALLY MASSIVE GAUGE THEORY, with P. Castelo Ferreira and R.J. Szabo, JHEP 0204, 035, 2002.
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- 166) MONOPOLES, VORTICES AND STRINGS: CONFINEMENT AND DECONFINEMENT IN (2+1) DIMENSIONS AT WEAK COUPLING, with Alex Kovner, hep-th/0205026.

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167) EFFECTIVE LAGRANGIANS AND UNIVERSALITY CLASSES OF NONLINEAR BIGRAVITY, with Thibault Damour, Phys. Rev. D66, 104024, 2002.

168) NONLINEAR BIGRAVITY AND COSMIC ACCELERATION, with Thibault Damour and Antonios Papazoglou, Phys. Rev. D66, 104025, 2002.

169) VARIATIONAL ANALYSIS OF THE DECONFINEMENT PHASE TRANSITION, with Alex Kovner and J. Guilherme Milhano, JHEP 0212, 017, 2002.

170) STRESS ENERGY TENSOR IN LCFT AND THE LOGARITHMIC SUGAWARA CONSTRUCTION, with Alexander Nichols, Int. J. Mod. Phys. A18, 4771, 2003.

171) HAGEDORN INFLATION: OPEN STRINGS ON BRANES CAN DRIVE INFLATION, with Steven Abel and Katherine Freese, Phys. Lett. B561, 1, 2003.

172) DBI ACTION FROM CLOSED STRINGS AND D-BRANE SECOND QUANTIZATION, with Dimitri Polyakov, Int. J. Mod. Phys. A18, 1827, 2003.

173) GHOST MATTER MIXING AND FEIGENBAUM UNIVERSALITY IN STRING THEORY, with Dimitri Polyakov, Phys. Atom. Nucl. 66, 2062, 2003.

174) SPHERICALLY SYMMETRIC SPACE-TIMES IN MASSIVE GRAVITY, with Thibault Damour and Antonios Papazoglou, Phys. Rev. D67, 064009, 2003.

175) HAGEDORN INFLATION: OPEN STRINGS ON BRANES CAN DRIVE INFLATION, with Steven Abel and Katherine Freese, hep-th/0303046.

176) FEIGENBAUM UNIVERSALITY IN STRING THEORY, with D. Polyakov, JETP Lett. 77, 260, 2003.

177) D-BRANES IN TOPOLOGICAL MEMBRANES, with Castelo Ferreira and R.J. Szabo, Nucl. Phys. B676, 243, 2004.