Benjamin L. Lev, Ph.D. Curriculum Vitae, abbreviated; June 2026

Personal

	Address:	Ginzton Laboratory Box 305, Stanford, CA 94305
	Tel/Fax:	650-723-0268
	Internet:	*benlev@stanford.edu*
	Website:	*levlab.stanford.edu*
	Date and Place of Birth:	September 9, 1977; Colorado Springs, Colorado

Academic positions

6/26 to present
Stanford Fortitude Professor
Professor of Physics and Applied Physics
Deputy Director of QFARM
Deputy Director of Ginzton Lab
Stanford University

9/22 to 6/26
Professor of Physics and Applied Physics
Deputy Director of QFARM
Deputy Director of Ginzton Lab
Stanford University

9/11 to 8/15
Assistant Professor, Departments of Applied Physics and, by courtesy, Physics
Member of Ginzton Laboratory
Stanford University

1/08 to 8/11
Assistant Professor, Department of Physics, University of Illinois at Urbana-Champaign

1/06 to 11/07
NRC Research Associateship (postdoc) in group of Prof. Jun Ye, JILA/NIST

10/05 to 12/05
Postdoctoral Scholar, California Institute of Technology
Cavity QED with atom chips and microresonators

Education

8/99 to 9/05
California Institute of Technology
Ph.D. in Physics, September 2005
Thesis Advisor Prof. Hideo Mabuchi
Ph.D. Dissertation: *Magnetic Microtraps for Cavity QED, Bose-Einstein Condensates, and Atom Optics*

9/95 to 6/99
Princeton University
A.B., Physics
Magna Cum Laude, June 1999
Undergraduate Thesis Advisors Prof. Bernard Keimer and Prof. Paul Chaikin
Senior Thesis: *Magnetotransport measurements in deuterated* $(TMTSF)_2ClO_4$

9/92 to 6/95
Crystal River High School, Crystal River, Florida; Valedictorian, June 1995

Honors and awards

2026 Endowed professorship, title: Stanford Fortitude Professor
2021 Fellow of the American Physical Society
2021 Editorial Board, Physical Review X
2020 Member of the Defense Science Study Group (IDA & DARPA)
2015 Chambers Fellowship (Stanford)
2014 Terman Fellowship (Stanford)
2012 DARPA Young Faculty Award (YFA)
2012 Office of Naval Research Young Investigator Award (ONR YIP)
2011 Terman Fellowship (Stanford)
2010 Presidential Early Career Award for Scientists and Engineers (PECASE) from NSF
2010 David and Lucile Packard Fellowship
2010 Center for Advanced Study Beckman Fellowship
2008 National Science Foundation (NSF) CAREER Award
2008 Air Force Office of Scientific Research Young Investigator Award (AFOSR YIP)
2007 Best Poster in the Boulder Labs Postdoctoral Poster Symposium
2006 NRC Research Associateship (JILA/NIST postdoc)
2004 Everhart Distinguished Graduate Student Lectureship, Caltech
2003 Best Poster Presentation in the Division of Physics, Mathematics, and Astronomy at Division of Physics, Mathematics, and Astronomy at the Caltech Graduate Student Symposium
1999 Allen Goodrich Schenstone Prize for Outstanding Work in Experimental Physics, Department of Physics, Princeton University
1999 Sigma Xi Honor Society
1997 Awards from the Class of 1934 Special Assistance Fund, the Fred Fox Class of 1939 Fund, and the Horton-Elmer Classes of 1942 and 1992 Fund; Princeton University
1995 National Science Scholar
1994 Third Place Grand Award, Physics, International Science and Engineering Fair, Birmingham, Alabama; United Technologies Corp. Special Award in Physics
1994 Second Place Florida State Science and Engineering Fair, Physics

Extracurricular activities

2024 – present Member of Advisory Council for the Department of Physics at Princeton University
2023 – present Member of Stanford's QFARM Executive Committee
2021 – present Editorial Board, Physical Review X
2020 – present Member of the Defense Science Study Group (DSSG) managed by the Institute for Defense Analyses (IDA) and funded by DARPA

Commentary and reviews

- L. Chomaz, I. Ferrier-Barbut, F. Ferlaino, B. Laburthe-Tolra, B. L. Lev, and T. Pfau, *Dipolar physics: a review of experiments with magnetic quantum gases,* Reports on Progress in Physics **86**, 026401 (2023).

- E. Altman *et al.*, *Quantum Simulators: Architectures and Opportunities*, PRX Quantum **2**, 017003 (2021).

- L. D. Carr and B. L. Lev, *Viewpoint: An Arrested Implosion*, Physics **9**, 55 (2016).

Publications, under review

- B. P. Marsh, D. Atri Schuller, Y. Ji, H. S. Hunt, S. Ganguli, S. Gopalakrishnan, J. Keeling, and B. L. Lev, *High-capacity associative memory in a quantum-optical spin glass*, under editing at Science; arXiv:2509.12202

- L. Skolc, S. Chattopadhyay, F. Marijanović, Q. Li, J. Keeling, B. L. Lev, and E. Demler, *Superradiant Charge Density Waves in a Driven Cavity-Matter Hybrid*, arxiv:2603.28432

- H. S. Hiller, P. Parakh, S. H. Aronson, K. Maeda, D. Lao, J. Stewart, Z. She, J. Wang, X. Xu, T. Heinz, B. L. Lev, *A cryogenic apparatus for coupling two-dimensional materials to a confocal multimode optical cavity*, arXiv:2605.28815

Publications, peer-reviewed

- Y. Zhang, K. Yang, B. L. Lev, and M. Rigol, Effects of intertube dipole-dipole interactions in nearly integrable one-dimensional 162Dy gases, Physical Review A **113**, 023314 (2026).

- B. P. Marsh, D. Atri Schuller, Y. Ji, H. S. Hunt, G. Z. Socolof, D. P. Bowman, J. Keeling, and B. L. Lev, *A multimode cavity QED Ising spin glass*, Physical Review Letters **135**, 160403 (2025).
  PRL Collection of the Year, 2025
  Cover of Physical Review Letters
  Selected as Editors' Suggestion

- R. Kroeze, B. Marsh, D. Atri Schuller, H. Hunt, A. Bourzutschky, M. Winer, S. Gopalakrishnan, J. Keeling, and B. Lev, *Directly observing replica symmetry breaking in a vector quantum-optical spin glass*, Science **389**, 1122 (2025).
  Highlight "In Science Journals."

- A. N. Bourzutschky, B. L. Lev, and J. Keeling, *Raman-phonon-polariton condensation in a transversely pumped cavity*, npj Quantum Materials **9**, 81 (2024).
  In npj Quantum Materials special issue on "Light Induced States of Matter."

- K. Yang, Y. Zhang, K.-Y. Li, K. -Y. Lin, S. Gopalakrishnan, M. Rigol, and B. L. Lev, *Phantom energy in the nonlinear response of a quantum many-body scar state*, Science **385**, 1063 (2024).

- B. P. Marsh, R. M. Kroeze, S. Ganguli, S. Gopalakrishnan, J. Keeling, and B. L. Lev, *Entanglement and replica symmetry breaking in a driven-dissipative quantum spin glass*, Physical Review X 14, 011026 (2024).

- K.-Y. Li, Y. Zhang, K. Yang, K.-Y. Lin, S. Gopalakrishnan, M. Rigol, and B. L. Lev, *Rapidity and momentum distributions of 1D dipolar quantum gases*, Physical Review A **107**, L061302 (2023).
  Selected as a Letter and Editors' Suggestion

- R. M. Kroeze, B. P. Marsh, K.-Y. Lin, J. Keeling, and B. L. Lev, *High Cooperativity Using a Confocal-Cavity–QED Microscope,* PRX Quantum **4**, 020326 (2023).

- Y. Guo, R. M. Kroeze, B. P. Marsh, S. Gopalakrishnan, J. Keeling, and B. L. Lev, *An optical lattice with sound*, Nature **599**, 211 (2021).

News coverage:
- Stanford News: *Adding sound to quantum simulations*
- APS Physics Magazine: A Humming Lattice of Cold Atoms

• B. P. Marsh, Y. Guo, R. M. Kroeze, S. Gopalakrishnan, S. Ganguli, J. Keeling, and B. L. Lev, *Enhancing associative memory recall and storage capacity using confocal cavity QED,* Physical Review X **11,** 021048 (2021).
News coverage:
- APS Synopsis in Physics: *A Computer Memory Based on Cold Atoms and Light*
- APS DAMOP highlight: *Atoms and Light Remember Better*

• S. Taylor, F. Yang, B. Freudenstein, and B. L. Lev, *A scanning quantum cryogenic atom microscope at 6 K,* SciPost Physics **10**, 060 (2021).

• W. Kao, K.-Y. Li, K.-Y. Lin, S. Gopalakrishnan, and B. L. Lev, *Topological pumping of a 1D dipolar gas into strongly correlated prethermal states*, Science **371**, 296 (2021).
News coverage:
- Stanford News: *Stanford physicists find new state of matter in a one-dimensional quantum gas*
- APS DAMOP highlight: *The Turn of the Screw*

• C. Rylands, Y. Guo, B. L. Lev, J. Keeling, and V. Galitski, *Photon-mediated Peierls Transition of a 1D Gas in a Multimode Optical Cavity*, Physical Review Letters **125**, 010404 (2020).
News coverage:
- Joint Quantum Institute Research News: *Quantum Simulation Stars Light in the Role of Sound*

• F. Yang, S. Taylor, S. Edkins, J. Palmstrom, I. Fisher, and B. L. Lev, *Nematic Transitions in Iron-Pnictide Superconductors Imaged with a Quantum Gas,* Nature Physics **16**, 514 (2020).
News coverage:
- Nature Physics **16**, 506 (2020): News & Views: J. Analytis*, Cooking with quantum gas*
- Phys.org article: "Imaging nematic transitions in iron pnictide superconductors"
- Physics World article: "Ultracold atoms put high-temperature superconductors under the microscope"

• R. Kroeze, Y. Guo, and B. L. Lev, *Dynamical Spin-Orbit Coupling in a Quantum Gas,* Physical Review Letters **123**, 160404 (2019).

• Y. Guo, R. Kroeze, V. Vaidya, J. Keeling, and B. L. Lev, *Sign-changing photon-mediated atom interactions in multimode cavity QED*, Physical Review Letters **122**, 193601 (2019).
News coverage:
- Chosen as Editors' Suggestion
- APS Physics Synopsis: *A step toward simulating spin glasses*

• Y. Guo, V. Vaidya, R. Kroeze, R. A. Lunney, B. L. Lev, and J. Keeling, *Emergent and broken symmetries of atomic self-organization arising from Gouy phase shifts in multimode cavity QED*, Physical Review A **99**, 053818 (2019). Companion paper to the above. Erratum: Physical Review A **103**, 019901(E) (2021).
News coverage:
- Chosen as Editors' Suggestion
- APS Physics Synopsis: *A step toward simulating spin glasses*

• R. Kroeze, Y. Guo, V. Vaidya, J. Keeling, and B. L. Lev, *Spinor self-ordering of a quantum gas in a cavity*, Physical Review Letters **121**, 163601 (2018).

• Y. Tang, W. Kao, K.-Y. Li, and B. L. Lev, *Tuning the dipole-dipole interaction in a quantum gas with a rotating magnetic field*, Physical Review Letters **120**, 230401 (2018).

• Y. Tang, W. Kao, K.-Y. Li, S. Seo, K. Mallayya, M. Rigol, S. Gopalakrishnan, and B. L. Lev, *Thermalization near integrability in a dipolar quantum Newton's cradle*, Physical Review X **8**, 021030 (2018).

News coverage:

- Science Editor's Choice: *Watching magnetic atoms thermalize,* **360**, 749 (2018)
- ScienceNews News: Quantum Physics *A tiny version of this physics toy is revealing quantum secrets*
- APS Physics Synopsis: *Pathway to Quantum Thermalization*
- Nature Physics Research Highlight: *Towards thermalization*, **14**, 430 (2018)
- Stanford News Article: *Toy inspires experiment on behavior of quantum systems*
- Oxbridge Applications Article: *A Toy Made Tiny: Newton's Cradle and Quantum Mechanics*
- Photonics Media Article: Newton*'s Cradle Yields Insight into Quantum Thermalization*
- Science Alert Article: *Physicists Built a Real Quantum Newton's Cradle to Study the Changes of Quantum Chaos*

• V. Vaidya, Y. Guo, R. Kroeze, K. Ballantine, A. Kollár, J. Keeling, and B. L. Lev, *Tunable-range, photon-mediated atomic interactions in multimode cavity QED*, Physical Review X **8**, 011002 (2018).

News coverage:

- APS Physics Viewpoint: H. Türeci, *A Multimode Dial for Interatomic Interactions,* Physics **11**, 3, (2018).

• F. Yang, A. J. Kollár, S. F. Taylor, R. W. Turner, and B. L. Lev, *Scanning Quantum Cryogenic Atom Microscope*, Physical Review Applied **7**, 034026 (2017).

News coverage:

- Selected as Editors' Suggestion
- APS Physics Viewpoint: J. Fórtagh and A. Günther, *Sensing Magnetic Fields with a Giant Quantum Wave*, Physics **10**, 30 (2017).
- PNAS Journal Club: Super-sensitive new microscope uses ultracold atoms to image magnetic fields at high precision
- AIP InsideScience: BRIEF: Introducing a New Kind of Microscope

• A. J. Kollár, A. T. Papageorge, V. D. Vaidya, Y. Guo, J. Keeling, and B. L. Lev, *Supermode-density-wave-polariton condensation*, Nature Communications **8**, 14386 (2017).

• W. Kao, Y. Tang, N. Burdick, and B. L. Lev, *Anisotropic dependence of tune-out wavelength near Dy 741-nm transition,* Optics Express **25**, 3411 (2017).

• K. E. Ballantine, B. L. Lev, and J. Keeling, *Meissner-like effect for synthetic gauge field in multimode cavity QED*, Physical Review Letters **118**, 045302 (2017).

• N. Burdick, A. G. Sykes, Y. Tang, and B. L. Lev, *Anisotropic collisions of dipolar Bose-Einstein condensates in the universal regime*, New Journal of Physics **18**, 113004 (2016).

News coverage:

- New Journal of Physics Perspective: I. Ferrier-Barbut, *Smashing Magnets*, New Journal of Physics **18** 111004 (2016).

• Y. Tang, A. G. Sykes, N. Q. Burdick, J. M. DiSciacca, D. S. Petrov, and B. L. Lev, *Anisotropic expansion of a thermal dipolar Bose gas*, Physical Review Letters **117**, 155301 (2016).

• N. Q. Burdick, Y. Tang, and B. L. Lev, *Long-lived spin-orbit-coupled dipolar Fermi gas*, Physical Review X **6**, 031022 (2016).

• A. Papageorge, A. Kollár, and B. L. Lev, *Coupling to Modes of a Near-Confocal Optical Resonator Using a Digital Light Modulator*, Optics Express **24**, 11447 (2016).

• Y. Tang, A. Sykes, N. Q. Burdick, J. Bohn, and B. L. Lev, *s-wave scattering lengths of the strongly dipolar bosons ^{162}Dy and ^{164}Dy*, Physical Review A **92**, 022703 (2015). Erratum, Phys Rev A **93**, 059905(E) (2016).

• N. Y. Yao, S. D. Bennett, C. R. Laumann, B. L. Lev, and A. V. Gorshkov, *Bilayer fractional quantum Hall states with dipoles,* Physical Review A **92**, 033609 (2015).

• A. J. Kollár, A. T. Papageorge, K. Baumann, M. A. Armen, and B. L. Lev, *An adjustable-length cavity and Bose-Einstein condensate apparatus for multimode cavity QED*, New Journal of Physics **17**, 043012 (2015).

• Y. Tang, N. Q. Burdick, K. Baumann, and B. L. Lev, *Bose-Einstein condensates of ^{162}Dy and ^{160}Dy*, New Journal of Physics **17**, 045006 (2015). Invited contribution to special issue, Focus on Frontiers of Cold Molecules Research.

• N. Q. Burdick, K. Baumann, Y. Tang, M. Lu, and B. L. Lev, *Fermionic suppression of dipolar relaxation,* Physical Review Letters **107**, 190401 (2015).

• K. Baumann, N. Q. Burdick, M. Lu, and B. L. Lev, *Observation of low-field Fano-Feshbach resonances in ultracold gases of dysprosium*, Physical Review A, Rapid Communications **89**, 020701 (2014).

• M. A. Naides, R. W. Turner, R. A. Lai, J. M. DiSciacca, and B. L. Lev, *Trapping ultracold gases near cryogenic materials with rapid reconfigurability*, Applied Physics Letters **103**, 251112 (2013).

• X. Cui, B. Lian, T.-L. Ho, B. L. Lev, and H. Zhai, *Synthetic Gauge Field with Highly Magnetic Lanthanide Atoms*, Physical Review A, Rapid Communications **88**, 011601(R) (2013).

• M. Lu, N. Q. Burdick, and B. L. Lev, *Quantum Degenerate Dipolar Fermi Gas*, Physical Review Letters, 108, 215301 (2012).

News coverage:
- Selected as Editors' Suggestion
- APS Physics Viewpoint: Quantum Dipolar Gases in Boson or Fermion Flavor, Physics **5**, 58 (2012).

• B. Dellabetta, T. L. Hughes, M. J. Gilbert, and B. L. Lev, *Imaging topologically protected transport with quantum degenerate gases*, Physical Review B **85**, 205442 (2012).

• M. Hafezi, Z. Kim, S. L. Rolston, L. A. Orozco, B. L. Lev, and J. M. Taylor, *Atomic interface between microwave and optical photons*, Physical Review A, Rapid Communications **85**, 020302(R) (2012).

• S. Gopalakrishnan, B. L. Lev, and P. Goldbart, *Exploring models of associative memory via cavity quantum electrodynamics*, Philosophical Magazine **92**, 353 (2012).

• M. Lu, N. Q. Burdick, S.-H. Youn, and B. L. Lev, *A Strongly Dipolar Bose-Einstein Condensate of Dysprosium*, Physical Review Letters **107**, 190401 (2011).

• S. Gopalakrishnan, B. L. Lev, and P. Goldbart, *Frustration and glassiness in spin models with cavity-mediated interactions,* Physical Review Letters **107**, 277201 (2011).

• V. A. Dzuba, V. V. Flambaum, and B. L. Lev, *Dynamic polarizabilities and magic wavelengths for dysprosium*, Physical Review A **83** 032502 (2011).

• M. Lu, S.-H. Youn, and B. L. Lev, *Spectroscopy of a narrow-line laser cooling transition in atomic dysprosium,* Physical Review A **83**, 012510 (2011).

• S.-H. Youn, M. Lu, and B. L. Lev, *Anisotropic sub-Doppler laser cooling in dysprosium magneto-optical traps,* Physical Review A **82**, 043403 (2010).

• S.-H. Youn, M. Lu, U. Ray, and B. L. Lev, *Dysprosium magneto-optical traps,* Physical Review A **82**, 043425 (2010).

• S. Gopalakrishnan, B. L. Lev, and P. Goldbart, *Atom-light crystallization of BECs in multimode cavities: Nonequilibrium classical and quantum phase transitions, emergent lattices, supersolidity, and frustration*, Physical Review A **82**, 043612 (2010).

News coverage:

- APS Physics Viewpoint: Liquid-crystalline phases of ultracold atoms, Physics **3**, 88 (2010).

• M. Lu, S.-H. Youn, B. L. Lev, *Trapping ultracold dysprosium: A highly magnetic gas for dipolar physics*, Physical Review Letters **104**, 063001 (2010).

News coverage:

- Nature Research Highlights: Dazzling dysprosium, Nature **463**, 1002 (2010).
- PhysicsWorld: Ultracold magnetic atoms bode well for quantum studies, February 18th, 2010.

• S. Gopalakrishnan, B. L. Lev, and P. Goldbart, *Emergent crystallinity and frustration with Bose-Einstein condensates in multimode cavities*, Nature Physics **5**, 845-850 **(**2009).

News coverage:

- Nature Physics News and Views: Quantum optics: Crystals of atoms and light Nature Physics **5**, 781 (2009).

• B. Fregoso, K. Sun, E. Fradkin, and B. L. Lev, *Biaxial nematic phases in ultracold dipolar Fermi gases,* New Journal of Physics **11**, 103003 (2009).

Publications prior to LevLab:

• R. Gehr, J. Volz, G. Dubois, T. Steinmetz, Y. Colombe, B. L. Lev, R. Long, J. Estève, J. Reichel, *Cavity-based single atom preparation and high-fidelity hyperfine state readout,* Physical Review Letters **104**, 203602 (2010).

• H. J. Kimble, B. L. Lev, and J. Ye, *Optical interferometers with reduced sensitivity to thermal noise*, Physical Review Letters **101**, 260602 (2008).

• M. Lara, B. L. Lev, and J. Bohn, *Loss of molecules in magneto-electrostatic traps due to nonadiabatic transitions*, Physical Review A **78**, 033433 (2008).

• B. L. Lev, A. Vukics, E. Hudson, B. Sawyer, P. Domokos, H. Ritsch, and J. Ye, *Prospects for the cavity-assisted laser cooling of molecules*, Physical Review A **77,** 023402 (2008).

• B. Sawyer, B. Stuhl, B. L. Lev, J. Ye, and E. Hudson, *Mitigation of loss within a molecular Stark decelerator*, European Journal of Physics D **48**, 197 (2008).

• B. Sawyer, B. L. Lev, E. Hudson, B. Stuhl, M. Lara, J. Bohn, and J. Ye, *Magneto-electrostatic trapping of ground state OH molecules*, Physical Review Letters **98**, 253002 (2007).

News coverage:

- Cover of Physical Review Letters, June 22nd, 2007.
- Science's Editor's Choice OH Trapped by Magnets, July 13th, 2007.

• B. L. Lev, E. Meyer, E. Hudson, B. Sawyer, J. Bohn, and J. Ye, *OH hyperfine ground state: from precision measurement to molecular qubits*, Physical Review A, Rapid Communications **74**, 061402(R) (2006).

• P. E. Barclay, K. Srinivasan, O. Painter, B. Lev, and H. Mabuchi, *Integration of Fiber Coupled High-Q Silicon Nitride Microdisks with Magnetostatic Atom Chips*, Applied Physics Letters **89**, 131108 (2006).

News coverage:

- Cover of Applied Physics Letters, September 25th, 2006.

• P. Treutlein, T. Steinmetz, Y. Colombe, B. Lev, P. Hommelhoff, J. Reichel, M. Greiner, O. Mandel, A. Widera, T. Rom, I. Bloch, and T. W. Hänsch, *Quantum Information Processing in Optical Lattices and Magnetic Microtraps*, Fortschritte der Physik **54**, 702 (2006). Also in: Elements of Quantum Information, ed. by W.P. Schleich and H. Walther (Wiley-VCH, Weinheim, Germany, 2007), pp. 121-144.

• B. Lev, K. Srinivasan, P. Barclay, O. Painter, and H. Mabuchi, *Feasibility of Detecting Single Atoms using Photonic Bandgap Cavities*, Nanotechnology **15,** S556 (2004).

• A. Hopkins, B. Lev, and H. Mabuchi, *Proposed Magneto-Electrostatic Ring Trap for Neutral Atoms*, Physical Review A **70**, 053616 (2004).

• B. Lev, *Fabrication of Micro-Magnetic Traps for Cold Neutral Atoms*, Quantum Information and Computation, Vol. **3**, No. 5, 450-464, (2003).

• B. Lev, Y. Lassailly, C. Lee, A. Scherer, and H. Mabuchi, *Atom Mirror Etched from a Hard Drive*, Applied Physics Letters, **83**, 395-397, (2003).

• H. Mabuchi, M. Armen, B. Lev, M. Loncar, J. Vuckovic, H.J. Kimble, J. Preskill, M.L. Roukes, and A. Scherer, *Quantum Networks Based on Cavity QED*, Quantum Information and Computation **1**, Special Issue, 7-12, (2001).

• B. Wixted, B. Lev, and P. Denes, *Radiation Hardness Evaluation of the Analog Devices AD9042 ADC for Use in the CMS Electromagnetic Calorimeter*, Nuclear Instruments and Methods in Physics Research Section A, **417**, 371-376, (1998).

Non-peer-reviewed publications

• S. Kobtsev, B. Lev, J. Fortagh, V. Baraulia, *Powerful narrow-line source of blue light for laser cooling Yb/Er and Dysprosium atoms,* Proc. of SPIE **7578**, 75782F-1 (2010).

• J. Ye, S. Blatt, M. M. Boyd, S. M. Foreman, E. R. Hudson, T. Ido, B. Lev, A. D. Ludlow, B. C. Sawyer, B. Stuhl and T. Zelevinsky, *Precision measurement based on ultracold atoms and cold molecules*, in Atomic Physics 20, XX International Conference on Atomic Physics (C. Roos et al., Eds., AIP Conf. Proc. 869, 2006), pp. 80-91. Also in: International J. Mod Phys. D (IJMPD) 16, 2481 - 2494 (2007).