

CURRICULUM VITAE

BAYRAM TEKİN

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Personal Data

Date of Birth: November 8, 1972

Research Background

THEORETICAL HIGH ENERGY PHYSICS: Quantum Field Theory, String Theory and Gravity

Ph.D Thesis, Univ. of Minnesota, May 1999, Advisor: Yutaka Hosotani

Non-perturbative Aspects of Quantum Field Theories and Gravity

Education and Professional Record

Summer 2008	Visitor (EE Dept.) UC Davis, California
Fall 2007	Visitor (Math. Dept.) UC Davis, California
Winter 2006 -	Assoc. Prof METU, (14 Feb)
Spring 2005 -	Assoc. Prof. (18 April, YÖK-Higher Education Council of Turkey)
Spring 2004-	Asst. Prof. Middle East Technical University, Ankara
Fall 2003– 2004	Instructor, Middle East Technical University, Ankara
Fall 2001–Fall 2003	Postdoctoral Research Associate, Brandeis University
Fall 1999–Fall 2001	Postdoctoral Research Associate, University of Oxford
Fall 1994–Spring 1999	PhD, University of Minnesota, Minneapolis
Fall 1991–Spring 1994	BS, Advanced Physics, Middle East Technical University, Ankara

Referee for

Phys. Rev. Letts. Phys. Rev. D
Class. Quantum Grav, J. Phys. A: Math. Gen.
Int. J. of Theor. Phys J. of Math. Phys

Teaching Experience

2008 Spring	Freshman Physics METU
2007 Spring	Geometry of Gauge Fields
2007 Spring	Physics for Students of Science II
2007 Spring	TUBITAK Physics Olympiad Training Camp (Antalya)
2006 Fall	Quantum Field Theory-II
2006 Fall	Physics for Students of Science I
2006 Summer	TUBITAK Physics Olympiad Training Camp (Pamukkale)
2006 Spring	Quantum Field Theory-I (541) METU
2006 Spring	Freshman Physics METU
2006 Spring	Freshman Physics TOBB-ETU
2005 Fall	Freshman Physics N-Cyprus, METU
2005 Summer	TUBITAK Physics Olympiad Training Camp (Gebze)
2005 Summer	Leader of the Turkish team, Phys. Olympiad, Salamanca, SPAIN
2004 Fall	Gravitation and Cosmology I and Freshman Physics, METU
2004 Summer	TUBITAK Physics Olympiad Training Camp (Kizilcahamam)
2004 Summer	Freshman Physics, METU
2004 Spring	Quantum Field Theory II and Freshman Physics, METU
2003 Fall	Quantum Field Theory I and Freshman Physics, METU
2003 Summer	TUBITAK Physics Olympiad Training Camp (Nevsehir)
2002 Spring	Brandeis University, Freshman Physics Course
2001 Hillary, Trinity	Math. Lecturer in the Balliol College, University of Oxford
Fall 1994–Spring 1998	University of Minnesota, Teaching Assistant for Various Introductory Physics Courses

Theses supervised

- 2007 Summer Emre Sakarya (MS) "Kaluza-Klein Monopole"
- 2007 Summer Sener Ozonder (MS) "Viable Higher Derivative Theories "
- 2005 Summer Ibrahim Gullu (MS) "Conserved charges in Gravity Theories"

Graduation Projects supervised PHYS-400, PHYS-415 and PHYS 416

- Ultra-relativistic cosmic rays
- Inflation theory and the early universe
- Cosmological models

Honors and Awards

- 2008 METU, Performance Prize

- 2007 METU, Young Faculty Award (Granted to 6 people in the University)
- 2005 METU, Performance Prize
- 2004 Turkish Journalists Society's Sedat Simavi Praise
- 2004-2009 TUBITAK's "Kariyer Planlama " Grant (Joint with O. Kisisel)
- 2004–2007 "Talented Young Scientist Fellowship" of Turkish Academy of Sciences (TUBA)
- 2001–2003 Postdoctoral Fellowship, NSF, Brandeis University, USA
- 1999–2001 Postdoctoral Fellowship, PPARC, Oxford University, UK
- 1998–1999 Graduate School Dissertation Fellowship, University of Minnesota, USA
- 1994–1998 Teaching and Research Assistantships, University of Minnesota, USA
- 1992–1993 Scholarship from Turkish Physics Foundation
- June 1991 Represented Turkey in the International Physics Olympiads, Havana, Cuba

Schools & Key Conferences

- Continuous Advances in QCD 2008, May 15-18 Minneapolis, USA
- Continuous Advances in QCD 2006, May 11-14 Minneapolis, USA
- XXVIII Spanish Relativity Meeting, Oviedo (Asturias) Spain September 6-10, 2005
- Physics for Tomorrow, 13-16 January, 2005, Paris
- Quantum Particles, Fields and Strings - 3 13-19 September, 2004 Baku
- 11th Regional Conference on Mathematical Physics May 3 - 6, 2004 Tehran.
- APS meeting, March 1999, Atlanta, USA.
- String 98, June 1998, Santa-Barbara, USA.
- Spring School on Mathematics and String Theory, March 1998, Harvard University, Cambridge, USA.
- Continuous Advances in QCD 1994–1996–1998, Minneapolis, USA.
- Various talks in U. of Minnesota, Oxford Univ., University of Connecticut, METU, Fatih U., Bilkent U., Bolu Izzet Baysal U., Koc U., Pamukkale U., UC Davis, Erzurum Ataturk U. , Ankara U., Eskisehir Anadolu U., Bogazici U., Feza Gursey Inst. etc.

List of Publications and Preprints

- Ali Ulas Ozgur Kisisel, Ozgur Sarioglu, Bayram Tekin "Cotton Flow" *Class. Quantum Grav* 25:165019,2008, arXiv:0803.1603 [hep-th]
- Aaron Katzenmeyer, Logeeswaran VJ, Bayram Tekin, M. Saif Islam "Impact of Casimir Force in Molecular Electronic Switching Junctions" arXiv:0801.0476 (IEEE Proceedings 2008, Beijing)
- B. Tekin "Chern-Simons modified General relativity: conserved charges" *Phys. Rev. D.* 77:024005 2008, arXiv:0710.2528 [gr-qc]
- O. Sarioglu and B. Tekin "Towards a proof of positive gravitational energy theorem in D-dimensions" arXiv:0709.0407 [gr-qc]
- S. Deser, O. Sarioglu and B. Tekin "Spherically symmetric solutions of Einstein + non-polynomial gravities" *Gen. Relativ. Gravit.* 40, 1-7, 2008, arXiv:0705.1669 [gr-qc]
- S. Deser and B. Tekin "New energy definition for higher curvature gravities," *Phys.Rev.D*75:084032, 2007 arXiv:gr-qc/0701140
- B. Tekin "Energy in AdS" Published in Minneapolis 2006, *Continuous advances in QCD* 124-130
- H. Cebeci, O Sarioglu and B Tekin, "Gravitational charges of transverse asymptotically AdS spacetimes." *Phys. Rev. D*74:124021,2006, [arXiv: hep-th/0611011]
- I. Gullu and B. Tekin "Charges in AdS spacetimes" *Turk. J. Phys.*, 30, (2006), 419-436.
- S. Deser and B. Tekin, "Conformal properties of charges in scalar-tensor gravities," [arXiv:gr-qc/0609111]. *Class. Quantum Grav.* 23, 7479 (2006)
- O Sarioglu and B Tekin, "Topologically massive gravity as a Pais-Uhlenbeck oscillator," *Class. Quantum Grav.* 23, 7541 (2006) [gr-qc/0608085].
- H. Cebeci, O Sarioglu and B Tekin, "Negative mass solitons in gravity" *Phys. Rev. D*73:064020,2006 [hep-th/0602117].
- S.Olmez, O.Sarioglu and B.Tekin, "Mass and angular momentum of asymptotically AdS or flat solutions in the topologically massive gravity," *Class. Quant. Grav.* 22, 4355,2005 [gr-qc/0507003].
- S. Deser, I. Kanik and B. Tekin, "Conserved charges of higher D Kerr-AdS spacetimes," *Class. Quan. Grav.*22, 1(2005)[gr-qc/0506057].
- S. Deser, J. Franklin and B. Tekin, "Shortcuts to Spherically Symmetric Solutions: A Cautionary Note," *Class.Quant.Grav.* 21:5295,2004 [gr-qc/0404120].
- S. Deser and B. Tekin, "Energy in topologically massive gravity", *Class.Quant.Grav.*20:L259,2003 [gr-qc/0307073].
- S. Deser and B. Tekin, "Shortcuts to high symmetry solutions in gravitational theories", *Class.Quant.Grav.*20:4877-4884,2003 [gr-qc/0306114].

- B. Tekin, “Partially massless spin-2 fields in string generated models”,
hep-th/0306178.
- V. K. Onemli and B. Tekin, “Kaluza-Klein monopole in AdS spacetime”,
Phys. Rev. D **68**, 064017 (2003) ; [hep-th/0301027].
- S. Deser and B. Tekin, “Energy in generic higher curvature gravity theories”,
Phys. Rev. D **67**, 084009 (2003); [hep-th/0212292].
- S. Deser and B. Tekin, “Gravitational energy in quadratic curvature gravities”,
Phys. Rev. Lett. **89**, 101101 (2002); [hep-th/0205318].
- S. Deser and B. Tekin, “Massive, topologically massive, models”,
Class. Quant. Grav. **19**, L97 (2002); [hep-th/0203273].
- B. Tekin, “Yang-Mills solutions on Euclidean Schwarzschild space”,
Phys. Rev. D **65**, 084035 (2002); [hep-th/0201050].
- I. I. Kogan, M. Schvellinger and B. Tekin, “Gauge field theory beta-functions, holographic
RG flow and Wilson loops”,
4th Workshop on Continuous Advances in QCD, Minneapolis, Minnesota, 12-14 May 2000
- S. Deser and B. Tekin, “Newtonian counterparts of spin 2 massless discontinuities”,
Class. Quant. Grav. **18**, L171 (2001); [gr-qc/0109091].
- B. Tekin, “Fluctuations of a (tensionless) brane world”,
hep-th/0107085.
- B. Tekin, “Higher dimensional operators or large extra dimensions?”,
hep-th/0106134.
- V. K. Onemli, M. Tas and B. Tekin, “Phase transition in compact QED₃ and the Josephson
junction”,
JHEP **0108**, 046 (2001); [hep-th/0105157].
- I. I. Kogan, A. Kovner and B. Tekin, “Deconfinement at $N > 2$: SU(N) Georgi-Glashow
model in 2+1 dimensions”,
JHEP **0105**, 062 (2001); [hep-th/0104047].
- I. I. Kogan, A. Kovner and B. Tekin, “Instanton molecules at high temperature: The Georgi-
Glashow model and beyond”
JHEP **0103**, 021 (2001); [hep-th/0101171].
- I. I. Kogan, A. Kovner and B. Tekin, “The chicken or the egg: Or who ordered the chiral
phase transition?”,
Phys. Rev. D **63**, 116007 (2001); [hep-ph/0101040].
- V. K. Onemli and B. Tekin, “Kaluza-Klein vortices”,
JHEP **0101**, 034 (2001); [hep-th/0011287].
- G. V. Dunne and B. Tekin, “Calorons in Weyl gauge”,
Phys. Rev. D **63**, 085004 (2001); [hep-th/0011169].
- G. V. Dunne, I. I. Kogan, A. Kovner and B. Tekin, “Deconfining phase transition in 2+1 D:
The Georgi-Glashow model”,
JHEP **0101**, 032 (2001); [hep-th/0010201].

- G. V. Dunne, A. Kovner and B. Tekin, “Magnetic symmetries and vortices in Chern-Simons theories”,
Phys. Rev. D **63**, 025009 (2001); [hep-th/0008139].
- B. Tekin, “Multi-instantons in \mathbb{R}^4 and minimal surfaces in $\mathbb{R}^{(2,1)}$ ”,
JHEP **0008**, 049 (2000); [hep-th/0006135].
- I. Kogan, M. Schvellinger and B. Tekin, “Holographic renormalization group flow, Wilson loops and field-theory beta-functions”,
Nucl. Phys. B **588**, 213 (2000); [hep-th/0004185].
- P. Castelo Ferreira, I. I. Kogan and B. Tekin, “Toroidal compactification in string theory from Chern-Simons theory”,
Nucl. Phys. B **589**, 167 (2000); [hep-th/0004078].
- B. Tekin, “Nonperturbative Aspects Of Quantum Field Theory”,
UMI-99-29524
- A. Ferstl, B. Tekin and V. Weir, “Gravitating instantons in 3 dimensional anti de Sitter space”,
Phys. Rev. D **62**, 064003 (2000); [hep-th/0002019].
- B. Tekin, “On the relevance of singular solutions in dS(3) and AdS(3) gravity”,
hep-th/9902090.
- B. Tekin, “Dimensional reduction of three dimensional gravity”,
hep-th/9812083.
- Y. Hosotani, B. Tekin and K. Saririan, “Complex monopoles in the path integral”,
hep-th/9809072.
- Y. Hosotani, K. Saririan and B. Tekin, “Complex monopoles and Gribov copies”,
hep-th/9808105.
- B. Tekin, K. Saririan and Y. Hosotani, “Complex monopoles in YM + Chern-Simons theory in 3 dimensions”,
hep-th/9808057.
- B. Tekin, K. Saririan and Y. Hosotani, “Complex monopoles in the Georgi-Glashow-Chern-Simons model”,
Nucl. Phys. B **539**, 720 (1999); [hep-th/9808045].
- J. Jalilian-Marian and B. Tekin, “Temperature dependence of eta and eta’ masses”,
Phys. Rev. D **57**, 5593 (1998); [hep-ph/9711475].
- P. N. Tan, B. Tekin and Y. Hosotani, “Maxwell-Chern-Simons scalar electrodynamics at two loops”,
Nucl. Phys. B **502**, 483 (1997); [hep-th/9703121].
- P. N. Tan, B. Tekin and Y. Hosotani, “Spontaneous symmetry breaking at two loop in 3-d massless scalar electrodynamics”,
Phys. Lett. B **388**, 611 (1996); [hep-th/9607233].