



YARI ZAMANLI AKADEMİK PERSONEL
BİLGİ FORMU



Adı ve Soyadı:	MAHMUT HORTAÇSU
Akademik Unvanı:	PROF. DR. (EMEKLİ)
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Eğitim Bilgileri:

Derece	Bölüm/Program	Üniversite	Yıl
Lisans	ELEKTRİK MÜHENDİSLİĞİ	ROBERT KOLEJ YÜKSEK OKULU	1966
Y. Lisans	-	-	-
Doktora/Sanatta Yeterlilik	FİZİK	PITTSBURGH ÜNİVERSİTESİ	1971
Doç./Prof.	FİZİK	BOĞAZİÇİ ÜNİVERSİTESİ	1982

Akademik Unvanlar/Görevler/Deneyimler: (Daha fazlası için alta satır ekleyiniz.)

Görev Unvanı	Tanımı	Görev Yeri	Yıl
DOÇENT		BOĞAZİÇİ ÜNİVERSİTESİ	1972 - 1986
PROFESÖR		İSTANBUL TEKNİK ÜNİVERSİTESİ	1986 - 2010

MSGSÜ'de Verdiği Dersler (Daha önce ders verildiyse doldurulacak.)
(Daha fazlası için alta satır ekleyiniz.)

Akademik Yıl	Dönem	Ders Adı	Zorunlu/Seçmeli
2021-2022	Güz	FİZ441 Fizikte Seçme Konular I	Seçmeli
	Bahar	FİZ442 Fizikte Seçme Konular II	Seçmeli
2022-2023	Güz	FİZ441 Fizikte Seçme Konular I	Seçmeli
	Bahar	FİZ442 Fizikte Seçme Konular II	Seçmeli

Diğer Kurumlarda Verdiği Dersler (Daha fazlası için alta satır ekleyiniz.)

Akademik Yıl	Dönem	Ders Adı	Kurum Adı
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19xx-xxxx	Güz		
	Bahar		
20xx-xxxx	Güz		
	Bahar		

Yabancı Dil	Seviyesi (Sınav Adı ile Birlikte Notu veya A1/A2/B1/B2/C1/C2 düzeyi) (Daha fazlası için alta satır ekleyiniz.)
-	-

Alanında Yayın (Daha fazlası için alta satır ekleyiniz.) 1. Birkandan T., Hortaçsu M., "The zero mass limit of Kerr and Kerr-(anti)de Sitter space times", Gen. Rel Grav. 50 (2018) no.3, 28; Erratum: Gen. Rel. Grav. 50 (2018) no. 9, 109. 2. Hortaçsu, M., "Heun Functions and Some of Their Applications in Physics", Adv. High Energy Phys. 2018 , 8621573 (2018) 3. Özçelik, H. T., Kaya R., Hortaçsu M. " Einstein Gravity with torsion induced by the scalar field", Annals of Phys. 393, (2018) 132; arXiv: 1611.07496 4. Birkandan T., Hortaçsu M. "Heun-type solutions for Schwarzschild metric with electromagnetic fields", Europhys.Lett. 119 (2017) no.2 ,arXiv:1704.00294 [math-ph] 5. Birkandan T., Hortaçsu M. "Quantum Field Theory Applications of Heun Type Functions ", Rept.Math.Phys. 79 (2017) 81, : arXiv:1605.07848 [hep-th] 6. Birkandan T., Hortaçsu M. "Singularity Structure and Stability Analysis of the Dirac Equation on the Boundary of the Nutku Helicoid Solution ", published as Comment on "Dirac equation in the background of the Nutku helicoid metric", J. Math. Phys. 49 , 054101 (2008) arXiv: 0711.0612 [gr-qc] 7. Hortaçsu M., Lütfüoğlu B.C., Taşkın, F. "Gauged System Mimicking The Gürsey Model", Mod. Phys. Lett. A22 (33) 2521 - 2531 (2007) hep-th/0611116 8. Birkandan T., Hortaçsu M. "Dirac equation in the background of the Nutku helicoid metric", J. Math. Phys. 48, 092301 (2007) arXiv:0706.2543 9. Hortaçsu M., Lütfüoğlu B.C. "Renormalization group analysis of a Gursey-model-inspired field theory", Phys.Rev.D76:025013, (2007) hep-th/0703103 10. Birkandan T., Hortaçsu M. "Examples of Heun and Mathieu functions as solutions of wave equations in curved spaces", J.Phys.A40:1105-1116, (2007) gr-qc/0607108 11. Hortaçsu M., Taşkın, F. "Another Model with Interacting Composites", Int.J.Mod.Phys.A22:83-94, (2007) hep-th/0605217 12. Hortaçsu M., Lütfüoğlu B.C. "A pure spinor model with interacting composites.", MOD. PHYS. LETT. A21: 653-662, (2006) hep-th/0506024 13. Hortaçsu M., Özçelik H.T., Yapişkan B. "Properties of solutions in (2+1)-

dimensions.", " , GEN. RELAT. GRAVIT. 35: 1209-1221, (2003) gr-qc/0302005
14. Hortacsu M. , "Explicit examples on conformal invariance.", INT.J.THEOR.PHYS.42:49, (2003) 1999 hep-th/0106080
15. Hortacsu M, Birkandan T. , "Three dimensional gravity in the presence of scalar fields.", GEN RELAT GRAVIT 35: 457-466 (2003) gr-qc/0104096
16. Hortacsu M., "A Detour in de Sitter Space while Calculating Vacuum Fluctuations", Tr. J. of Physics, 24, 359 (2000).
17. Hortacsu M., "Notes on Choptuik phenomena", Research Semester on Gravitation and Cosmology, Istanbul, Turkey (2003) (gr-qc/0306097).
18. Hortacsu M., "Conformal symmetry and triviality", Meeting for 60th Birthday of T.U. at ITU (2003), ARI, The Bulletin of the Istanbul Technical University, vol.53, number 2, 10; (hep-th/0302166).
19. Birkandan T., Hortacsu M., " Examples of Heun and Mathieu Functions as Solutions of Wave Equations in Curved Spaces ", EAS Publications Series 30, 265 (2008) (arXiv: 0710.4243 [gr-qc])
20. Hortasu M., "Heun Functions and their uses in Physics", Proceedings of the 13th Regional Conference on Mathematical Physics, Antalya, Turkey, October 27-31,-2010, Edited by Ugur Camci and Ibrahim Semi 23-39. World Scientific, e-Print: arXiv:1101.0471 [math-ph]
21. 2000 yılından nceki makaleleri ekte belirtilmiřtir.
Alanında Eser (Daha fazlası iin alta satır ekleyiniz.)
1.
2.
3.
4.
dl (Daha fazlası iin alta satır ekleyiniz.)
1. Tbitak Teřvik dl (1982)
2. Humboldt Bursu (1978)
3.
4.
Sanatsal Faaliyetler (Daha fazlası iin alta satır ekleyiniz.)
1.
2.
3.
4.
Bilimsel Arařtırma Projeleri (Daha fazlası iin alta satır ekleyiniz.)
1.
2.
3.
4.
Tez Danıřmanlıkları (Daha fazlası iin alta satır ekleyiniz.)
1. 1978, Prof. Dr. Nihal Ercan, Boğazii University
2. 1990, Prof. Dr. Neře zdemir, ITU
3. 1990, Assistant Prof. Dr.Reyhan Kaya, Yıldız Technical University
4. 1992, Ahmet atal, Afyon University
5. 1992, řevket Gndz, Physics Instructor at Deniz Lisesi
6. 1994, Iskender Hanci, self employed
7. 1995, Sebahattin nal, self employed
8. 1996 Assistant Prof. Dr. Ycel Enginer, Gebze Institute of Technology
9. 1997, Dr. Kayhan Ulker, Feza Grsey Institute
10. 1998, B.Can Lutfuoglu, ITU
11. 2000 Dr. Barıř Yapiřkan, ITU
12. 2002, Tolga Birkandan, ITU

13. 2003, Hasan Tuncay Özçelik, works at private sector
14. 2006, Nail Al, works at private sector
15. 1984, Prof. Dr. Jan Kalaycı, retired from ITU
16. 1994, Prof. Dr. Neşe Özdemir, ITU
17. 1999, Assistant Prof. Dr. Reyhan Kaya, Yıldız Technical University
18. 2002, Dr. Kayhan Ülker, Researcher at Feza Gürsey Institute
19. 2008, Dr. Ferhat Taşkın, Erciyes University
20. 2008, Dr. Tolga Birkandan, İTÜ
21. 2009, Dr. Bekir Can Lütfüoğlu, İTÜ

A. Uluslararası hakemli dergilerde yayımlanan makaleler:

A1.

1. M. Hortacsu, R. Seiler, B. Schroer, "Conformal Symmetry and Reverberations", Physical Review D5, 2519 (1972).
2. M. Hortacsu, "On Conformal Covariance in Thirring Model", Nuovo Cimento 34A, 411 (1973).
3. M. Hortacsu, "Demonstration of Noncausality in the Rarita - Schwinger Equation", Physical Review D9, 928, (1974)
4. M. Hortacsu, "The Reality Symmetry in Thirring Model", Nuovo Cimento 34A, 639 (1976).
5. M. Hortacsu, "Electromagnetic Contributions to the Thirring Model Effective Potential ", Nuovo Cimento 36A (1976) 43.
6. M. Hortacsu, "Scattering Solutions in a Potential Derived from the Bound State Solutions for the Massive Thirring Model", Nuovo Cimento 35A, 518 (1976).
7. M. Hortacsu, "Confined Solutions of the Thirring Model Coupled to a Schwinger Field", Physical Review D15, 3003 (1977).
8. M. Hortacsu, "Reflectivity of Solutions in the Massive Thirring Model Potential", Physical Review D15, 3760 (1977).
9. M. Hortacsu, "Interactions of Instantons with a Fermion Field in a 1+1 Dimensional Model", Physical Review D20, 496 (1979).
10. M. Hortacsu, B. Schroer, H. J. Thun, "A Two Dimensional Sigma Model with Particle Productions", Nuclear Physics B154 (1979).
11. M. Hortacsu, K. D. Rothe, B. Schroer, "Generalized Two Dimensional QED and Functional Determinants", Physical Review D20, 3203 (1979).
12. M. Hortacsu, K. D. Rothe, B. Schroer, "1/N Expansions in Quantum Field Theories with Nonisovector Gluons", Nuclear Physics B164, 33 (1980).
13. M. Hortacsu, K. D. Rothe, B. Schroer, "Zero Energy Eigenstates for the Dirac Boundary Problem", Nuclear Physics B171, 363 (1980).
14. M. Hortacsu, K. D. Rothe, B. Schroer, "Still More about the Fermion Determinant in QED2", Physical Review D22, 3145 (1980).
15. M. Hortacsu, "1/N Calculation of CP(N-1) Structure Functions", Nuclear Physics B186, 573 (1981).
16. K. G. Akdeniz, M. Hortacsu, "Functional Determinant for the Thirring Model with Instanton", Nuovo Cimento 59A, 181 (1980).
17. K. G. Akdeniz, M. Hortacsu, "Stability of Merons in Spinor Models", Physics Letters 114B, 254 (1982).

18. K. G. Akdeniz, M. Arik, M. Durgut, M. Hortacsu, S. Kaptanoglu, N. K. Pak, "Quantization of the Gursey Model", Physics Letters 116B, 34 (1982).
19. K. G. Akdeniz, M. Arik, M. Durgut, M. Hortacsu, S. Kaptanoglu, N. K. Pak, "A Pure Spinor Model With Composite Gluons", Physics Letters 116B, 41 (1982).
20. K. G. Akdeniz, M. Arik, M. Hortacsu, N. K. Pak, "Gauge Bosons as Composites of Fermions", Physics Letters 124B, 79 (1983).
21. M. Hortacsu, "Index Theorem for Merons", Lett. Nuovo Cimento, 36, 109 (1983).
22. K. G. Akdeniz, M. Hortacsu, "New Meron Type Solution", Lett. Mathematical Physics, 7 (1983).
23. K. G. Akdeniz, M. Hortacsu, "A Meron Determinant Calculation", Lett. Nuovo Cimento, 36, 397 (1983).
24. M. Arik, M. Hortacsu, "Parton-like Behavior in a Pure Fermionic Model", Journal of Physics G, Nuclear Physics L119, 9 (1983).
25. M. Arik, M. Hortacsu, "Number of Families in a Pure Fermionoc Model", Journal of Physics G, Nuclear Physics L233, 9 (1983).
26. M. Arik, M. Hortacsu, J. Kalayci, "Composite Gluons and Magnetic Monopole", Lett. Mathematical Physics, 8, 145 (1984).
27. M. Hortacsu, N. K. Pak, "Is Electric Charge Conserved in Monopole-Fermion Scattering", Journal of Physics G, Nuclear Physics, 10, 1477 (1984).
28. M. Hortacsu, J. Kalayci, N. K. Pak, "A Possible Problem With the Rubakov - Callan Condensate Formation for Massive Fermions", Physics Letters 145B, 411 (1984).
29. M. Arik, M. Hortacsu, J. Kalayci, "Composite Gluons and Magnetic Monopoles", Journal of Physics G, Nuclear Physics, 11, 1 (1985).
30. K. G. Akdeniz, C. Dane, M. Hortacsu, "Eigenmodes for Fluctuations about the Classical Solutions in the Generalized Liouville Equation", Physical Review D37, 3074 (1988).
31. M. Hortacsu, "A Quantization Scheme for Scale Invariant Pure Gauge Theories", Physics Letters B207, 457, (1988).
32. D. Dibekci, M. Hortacsu, J. Kalayci, "Monopole Solutions in Scale Invariant Theories", Physics Letters B209, 516 (1988).
33. M. Hortacsu, J. Kalayci, "Propagators in Higher Dimensional Scale Invariant Gauge Theories", Physics Letters B221, 319 (1989).
34. M. Hortacsu, "Quantum Fluctuations in the Field of an Impulsive Spherical Gravitational Wave", Classical and Quantum Gravity, 7, L165 (1990), Erratum: 9, 799, (1992).
35. D. Dibekci, M. Hortacsu, J. Kalayci, H. Ozbek, "A Monopole-like Classical Solution to a Purely Fermionic of Even Dimensions", Lett. Mathematical Physics, 22, 203(1991).
36. M. Hortacsu, "Singularities With $C(0)$ Metrics", Lett. Mathematical Physics, 23, 301 (1991).

37. M. Hortacsu, "Quantum Fluctuations of a Spherical Gravitational Shock Wave", Classical and Quantum Gravity, 9, 1619 (1992).
38. M. Hortacsu, "Fluctuations of a Spherical Gravitational Impulsive Wave", J. Mathematical Physics, 34, 690, (1993), Erratum in 37, 4199 (1996).
39. M. Hortacsu, Nese Ozdemir, "Reduction of Space - Time by a Constraint for C(0) Metrics", J. Mathematical Physics, 35, 173 (1994).
40. M. Hortacsu, R. Kaya, "Fluctuations of a Rotating Impulsive Wave ", J. Mathematical Physics, 35, 3043 (1994), Erratum in 37, 4199 (1996).
41. Nese Ozdemir, M. Hortacsu, "Quantum Fluctuations of Spherical Gravitational Shock Wave 2", Classical and Quantum Gravity, 12, 1221 (1995).
42. A. H. Bilge, M. Hortacsu, N. Ozdemir, "Particle Creation If A Cosmic String Snaps", General Relativity and Gravitation, 28, pp. 511-526 (1996). gr-qc/9410020
43. M. Hortacsu, "Vacuum Fluctuations for Spherical Gravitational Impulsive Waves ", Classical and Quantum Gravity, 13, pp. 2683 - 2691(1996) gr-qc/9803063.
44. A. N. Aliev, M. Hortacsu, N. Ozdemir, "Vacuum Fluctuations of a Massless Spin-1/2 Field Around Multiple Cosmic Strings", Classical and Quantum Gravity, 14, 3215 (1997) gr-qc/9803044.
45. Y. Enginer, M. Hortacsu, N. Ozdemir, "Quantum Fluctuations of a Scalar Field in the Space - Time of a Gravitational Wave", International J. Modern Physics A, 13, pp. 1201 - 1211 (1998) gr-qc/9802039.
46. M. Hortacsu, K. Ulker, "Gravitational Shock Waves and Quantum Fluctuations", Class. Quant. Gravity, 15, pp. 1415 - 1420 (1998) hep-th/9802072.
47. A. H. Bilge, M. Hortacsu, N. Ozdemir, "Can an Unruh Detector Feel a Cosmic String?", General Relativity and Gravitation, 30, pp. 861 - 876 (1998) gr-qc/9709017.
48. M. Hortacsu, R. Kaya, "Comparison of Exact and Perturbative Results for Two Metrics", General Relativity and Gravitation, 30, 1645, (1998) gr-qc/9809027.
49. Y. Enginer, M. Hortacsu, R. Kaya, N. Ozdemir, K. Ulker, B. Yapiskan, "Quantum Fluctuations of Some Gravitational Waves", Indian J. Pure Appl. Math., 29, 1029, (1998) gr-qc/9809028.
50. M. Hortacsu, N. Ozdemir, "Cancellation of Ultraviolet Divergences for Locally Flat Metrics", Modern Physics Letters A , 13, 3081, (1998) gr-qc/9709001.
51. Aliev A.N, Hortacsu M, Kalayci J, et al., "Gravitational instantons from minimal surfaces", CLASSICAL QUANT GRAV 16: (2) 631-642 FEB 1999 gr-qc/9812007
52. Hortacsu M, Lutfuoglu B.C. , "Spurious effects in perturbative calculations", GEN RELAT GRAVIT 31: (3) 391-403 MAR 1999 gr-qc/9812037
53. Hortacsu M, Ulker K , "Equivalence of constrained models", INT J THEOR PHYS 38: (5) 1429-1438 MAY 1999 hep-th/9810173

B. Uluslararası bilimsel toplantılarda sunulan ve bildiri kitaplarında (proceedings) basılan bildiriler:

B1.

1. Hortacsu M., "Charge-Conjugation Symmetry in Two-Dimensional Models", European Conference on Particle Physics, Conference Abstracts p.298, (1977).
2. M. Arik, M. Hortacsu, "Conformal Invariant Pure Spinor Models", International Colloquium on Group Theoretical Methods in Physics, Springer Lecture Notes in Physics, der. E. Inonu, M. Serdaroglu , 180, pp. 154 - 157, Springer Verlag (1983).
3. M. Arik, M. Hortacsu, J. Kalayci, "Magnetic Monopoles in Purely Fermionic Models", Monopole 1983, der. James LK. Stone, Nato ASI Series, Series B, Physics, 111 (1985).
4. Hortacsu M., R. Kaya, N. Ozdemir, "Quantum Fluctuations in the Presence of Gravitational Waves", Lecture Notes in Physics, "Strings and Symmetries", der. G. Aktas, C. Saclioglu, M. Serdaroglu, pp. 297 - 302, Springer Verlag (1995).
5. Hortacsu M., "What If the Cosmic String Snaps?", Doga, Turkish J. Physics, 17, 702 (1993).
6. Hortacsu M., "Vacuum Fluctuations in the Presence of Spherical Gravitational Impulsive Wave", Tr. J. of Physics, 21, 399 (1997).
7. Aliev A. N., Hortacsu M., Ozdemir N., "Vacuum Fluctuations of Massless Vector and Spinor Fields around Multiple Cosmic Strings", 15th International Conference on General Relativity and Gravitation, Dec. 16-21, 1997, Pune, India, p. 276 in Conference Abstracts.

C. Yazılan ulusal/uluslararası kitaplar veya kitaplardaki bölümler:**C1. Yazılan ulusal/uluslararası kitaplar:****C1.1.****C2. Yazılan ulusal/uluslararası kitaplardaki bölümler:****C2.1.****D. Ulusal hakemli dergilerde yayımlanan makaleler:****D1.**

1. Hortacsu M., "Notes on Conformal Invariance in Quantum Field Theory", Bogazici University Journal, TB 1, 15 (1973).
2. Hortacsu M., "Remarks on Lightlike Quantization", Bogazici University Journal TB 1, 43 (1973). 3. "On the Noncausality of the Rarita - Schwinger Equation", Bogazici University Journal, Physics, 3, 31, (1975).
4. Hortacsu M., "Comment on the Classical Stationary Solutions", Bogazici University Journal, Physics, 6, 13 (1978).

5. Hortacsu M., "A Remark on Two Dimensional Sigma Models with Particle Production", Bogazici University Journal, Physics, 8-9, 49 (1980-81).

6. Hortacsu M., "Equivalence of Certain Four Fermion Models to QCD and Triviality", Bulletin of the Technical University of Istanbul, 47, 321 (1994).

E. Ulusal bilimsel toplantılarda sunulan ve bildiri kitaplarında basılan bildiriler:

E1.

F. Sanat ve tasarım etkinlikleri:

F1.

G. Diğer yayınlar:

(Yukarıdaki maddelerde yer alan başlıklardaki kategorilere girmeyen ve belirtilmek istenen tüm eserler bu maddenin altında belirtilecektir.)

G1.

H. Görevlendirildiği alanda Ulusal/Uluslararası çalışmalar:

H1.