

# Prof. UĞUR TIRNAKLI

## Personal Information

**Birthyear:** 1967

**Place of birth:** İZMİR

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**Post Address:** Ege Üniversitesi Fen Fakültesi Fizik Bölümü  
35100 İzmir



## Education Information

Doctorate, Ege University, Fizik/Matematiksel Fizik, Turkey 1995 - 1998

Post Graduate, Ege University, Fizik/Matematiksel Fizik, Turkey 1992 - 1995

Under Graduate, Ege University, Turkey 1986 - 1990

## Foreign Languages

Portuguese, C1 Advanced

English, C2 Proficiency

## Dissertations

Doctorate, Nonekstensif Fiziksel Sistemler için yeni bir Formalizm: Genelleştirilmiş İstatistiksel Termodinamik ve Uygulamaları, Ege University, Fizik/Matematiksel Fizik, 1998

Post Graduate, Faz Geçişleri, Miknatslanma Modelleri ve Ising Sistemi, Ege University, Fizik/Matematiksel Fizik, 1995

## Research Areas

Physics, General Physics, Mathematical Methods in Physics, Statistical physics, thermodynamic and nonlinear dynamic systems, Natural Sciences

## Academic Titles / Tasks

Professor, Ege University, 2006 - Continues

Associate Professor, Ege Üniversitesi, Fen Fakültesi, Fizik Bölümü, 2001 - 2006

Assistant Professor, Ege Üniversitesi, Fen Fakültesi, Fizik Bölümü, 2000 - 2001

Research Assistant, Ege Üniversitesi, Fen Fakültesi, Fizik Bölümü, 1990 - 2000

## Professional Experience

Head of Department, Ege Üniversitesi, Fen Fakültesi, Fizik Bölümü, 2014 - Continues

## Courses

Physical Mathematics II, Under Graduate, 2011 - 2012, 2012 - 2013, 2013 - 2014, 2015 - 2016, 2017 - 2018

Statistical Mechanics, Under Graduate, 2017 - 2018

Physical Mathematics I, Under Graduate, 2012 - 2013, 2013 - 2014, 2014 - 2015, 2015 - 2016, 2017 - 2018

Kuantum Mekaniği I, Post Graduate, 2011 - 2012, 2012 - 2013, 2013 - 2014, 2014 - 2015, 2015 - 2016

Fizikte Sayısal Yöntemleri, Post Graduate, 2012 - 2013, 2015 - 2016

Physics I, Under Graduate, 2012 - 2013, 2013 - 2014, 2014 - 2015

Physics II, Under Graduate, 2011 - 2012, 2012 - 2013, 2013 - 2014

Kuantum Mekaniği II, Under Graduate, 2012 - 2013

Kuantum Mekaniği I, Under Graduate, 2012 - 2013

## Advising Theses

Tırnaklı U., Doğal ve Yapay Zaman Serilerinde Karmaşıklık ve Zaman Serisi Analizi, Doctorate, İ.ÖZKEN(Student), 2018

Tırnaklı U., Düşük-boyutlu dinamik sistemlerin kaos geçiş eşiği civarındadavranışları ve bunların sağlamlık analizi, Post Graduate, K.ÇETİN(Student), 2015

Tırnaklı U., Dinamik Sistemler için Merkezsel Limit Teoremleri ve KarmaşıklıkAnalizi, Doctorate, Ö.AFŞAR(Student), 2013

Tırnaklı U., Deprem Modellerinden Üretilen Zaman Serilerinin İstatistik Mekanikselİncelenmesi, Doctorate, A.ÇELİKOĞLU(Student), 2012

TIRNAKLI U., Düşük-boyutlu yitimli dinamik sistemlerin kaos geçiş eşiğinde entropi üretimi ve ilk koşullara bağlılığı, Post Graduate, A.ÇELİKOĞLU(Student), 2006

Tırnaklı U., Biyolojik evrimin Bak-Sneppen modelinde ilk koşullara bağlılıkve denge dinamiği, Post Graduate, E.ERGÜN(Student), 2004

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- **Recurrence plot analysis of irregularly sampled data**  
Ozken I., EROGLU D., BREITENBACH S. F. M. , MARWAN N., TAN L., Tırnaklı U., KURTHS J.  
PHYSICAL REVIEW E, vol.98, 2018 (Journal Indexed in SCI)
- **Recurrence Quantification Analysis at work: Quasi-periodicity based interpretation of gait force profiles for patients with Parkinson disease**  
Afsar O., Tırnaklı U., MARWAN N.  
SCIENTIFIC REPORTS, vol.8, 2018 (Journal Indexed in SCI)
- **Skewness and kurtosis analysis for non-Gaussian distributions**  
Celikoglu A., Tırnaklı U.  
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.499, pp.325-334, 2018 (Journal Indexed in SCI)
- **Generalized Pesin-Like Identity and Scaling Relations at the Chaos Threshold of the Rössler System**  
Cetin K., Afsar O., Tırnaklı U.  
ENTROPY, vol.20, 2018 (Journal Indexed in SCI)
- **Statistical characterization of discrete conservative systems: The web map**  
RUIZ G., Tırnaklı U., BORGES E. P. , TSALLIS C.  
PHYSICAL REVIEW E, vol.96, 2017 (Journal Indexed in SCI)
- **Statistical characterization of the standard map**  
RUIZ G., Tırnaklı U., BORGES E. P. , TSALLIS C.  
JOURNAL OF STATISTICAL MECHANICS-THEORY AND EXPERIMENT, 2017 (Journal Indexed in SCI)
- **Thermal conductance of the coupled-rotator chain: Influence of temperature and size**  
LIY., LIN., Tırnaklı U., LIB., TSALLIS C.  
EPL, vol.117, 2017 (Journal Indexed in SCI)
- **Noisy coupled logistic maps in the vicinity of chaos threshold**  
Tırnaklı U., TSALLIS C.  
CHAOS, vol.26, 2016 (Journal Indexed in SCI)
- **The standard map: From Boltzmann-Gibbs statistics to Tsallis statistics**

Tirnakli U., BORGES E. P.

SCIENTIFIC REPORTS, vol.6, 2016 (Journal Indexed in SCI)

- **Entropy-based complexity measures for gait data of patients with Parkinson's disease**  
Afsar O., Tirnakli U., KURTHS J.  
CHAOS, vol.26, 2016 (Journal Indexed in SCI)
- **Comment on "Universal relation between skewness and kurtosis in complex dynamics"**  
Celikoglu A., Tirnakli U.  
PHYSICAL REVIEW E, vol.92, 2015 (Journal Indexed in SCI)
- **On the relevance of q-distribution functions: the return time distribution of restricted random walker**  
ZAND J., Tirnakli U., JENSEN H. J.  
JOURNAL OF PHYSICS A-MATHEMATICAL AND THEORETICAL, vol.48, 2015 (Journal Indexed in SCI)
- **Limit behaviour and scaling relations of two kinds of noisy logistic map in the vicinity of chaos threshold and their robustness**  
Cetin K., Afsar O., Tirnakli U.  
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.424, pp.269-282, 2015 (Journal Indexed in SCI)
- **Relationships and scaling laws among correlation, fractality, Lyapunov divergence and q-Gaussian distributions**  
Afsar O., Tirnakli U.  
PHYSICA D-NONLINEAR PHENOMENA, vol.272, pp.18-25, 2014 (Journal Indexed in SCI)
- **Unified scaling law in the coherent noise model**  
Celikoglu A., Tirnakli U.  
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.392, pp.4543-4548, 2013 (Journal Indexed in SCI)
- **Renormalized entropy for one dimensional discrete maps: periodic and quasi-periodic route to chaos and their robustness**  
Afsar O., Bagci G. B. , Tirnakli U.  
EUROPEAN PHYSICAL JOURNAL B, vol.86, 2013 (Journal Indexed in SCI)
- **Connectivity-Driven Coherence in Complex Networks**  
PEREIRA T., Eroglu D., Bagci G. B. , Tirnakli U., JENSEN H. J.  
PHYSICAL REVIEW LETTERS, vol.110, 2013 (Journal Indexed in SCI)
- **Second law for transitions between nonequilibrium steady states**  
Bagci G. B. , Tirnakli U., KURTHS J.  
PHYSICAL REVIEW E, vol.87, 2013 (Journal Indexed in SCI)
- **Generalized Huberman-Rudnick scaling law and robustness of q-Gaussian probability distributions**  
Afsar O., Tirnakli U.  
EPL, vol.101, 2013 (Journal Indexed in SCI)
- **Canonical equilibrium distribution derived from Helmholtz potential**  
Oikonomou T., Bagci G. B. , Tirnakli U.  
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.391, pp.6386-6389, 2012 (Journal Indexed in SCI)
- **Earthquakes, model systems and connections to q-statistics**  
Celikoglu A., Tirnakli U.  
ACTA GEOPHYSICA, vol.60, pp.535-546, 2012 (Journal Indexed in SCI)
- **Restricted random walk model as a new testing ground for the applicability of q-statistics**  
Tirnakli U., JENSEN H. J. , TSALLIS C.  
EPL, vol.96, 2011 (Journal Indexed in SCI)
- **Self organized criticality in a modified Olami-Feder-Christensen model**  
ZHANG G. Q. , Tirnakli U., WANG L., CHEN T. L.  
EUROPEAN PHYSICAL JOURNAL B, vol.82, pp.83-89, 2011 (Journal Indexed in SCI)
- **Probability densities for the sums of iterates of the sine-circle map in the vicinity of the quasiperiodic edge of chaos**  
Afsar O., Tirnakli U.

PHYSICAL REVIEW E, vol.82, 2010 (Journal Indexed in SCI)

- **Return distributions in dog-flea model revisited**

Bakar B., Tirmakli U.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.389, pp.3382-3386, 2010 (Journal Indexed in SCI)

- **Analysis of return distributions in the coherent noise model**

Celikoglu A., Tirmakli U., Queiros S. M. D.

PHYSICAL REVIEW E, vol.82, 2010 (Journal Indexed in SCI)

- **Generalized entropic structures and non-generality of Jaynes' Formalism**

OIKONOMOU T., Tirmakli U.

CHAOS SOLITONS & FRACTALS, vol.42, pp.3027-3034, 2009 (Journal Indexed in SCI)

- **SELF-ORGANIZATION IN NONADDITIVE SYSTEMS WITH EXTERNAL NOISE**

Bagci G. B. , Tirmakli U.

INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, vol.19, pp.4247-4252, 2009 (Journal Indexed in SCI)

- **Self-organization in dissipative optical lattices**

Bagci G. B. , Tirmakli U.

CHAOS, vol.19, 2009 (Journal Indexed in SCI)

- **On the way towards a generalized entropy maximization procedure**

Bagci G. B. , Tirmakli U.

PHYSICS LETTERS A, vol.373, pp.3230-3234, 2009 (Journal Indexed in SCI)

- **Closer look at time averages of the logistic map at the edge of chaos**

Tirmakli U., TSALLIS C., Beck C.

PHYSICAL REVIEW E, vol.79, 2009 (Journal Indexed in SCI)

- **Analysis of self-organized criticality in Ehrenfest's dog-flea model**

Bakar B., Tirmakli U.

PHYSICAL REVIEW E, vol.79, 2009 (Journal Indexed in SCI)

- **Convergence dynamics of 2-dimensional isotropic and anisotropic Bak-Sneppen models**

Bakar B., Tirmakli U.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.387, pp.5110-5116, 2008 (Journal Indexed in SCI)

- **Nonextensive statistical approach to non-coding human DNA**

OIKONOMOU T., PROVATA A., Tirmakli U.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.387, pp.2653-2659, 2008 (Journal Indexed in SCI)

- **Damage spreading in 2-dimensional isotropic and anisotropic Bak-Sneppen models**

Bakar B., Tirmakli U.

EUROPEAN PHYSICAL JOURNAL B, vol.62, pp.95-99, 2008 (Journal Indexed in SCI)

- **Central limit behavior of deterministic dynamical systems**

Tirmakli U., BECK C., TSALLIS C.

PHYSICAL REVIEW E, vol.75, 2007 (Journal Indexed in SCI)

- **Convergence dynamics of the Bak-Sneppen model: Activity rate and waiting time distribution**

Tirmakli U., LYRA M. L.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.375, pp.103-109, 2007 (Journal Indexed in SCI)

- **Sensitivity function and entropy increase rates for z-logistic map family at the edge of chaos**

Celikoglu A., Tirmakli U.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.372, pp.238-242, 2006 (Journal Indexed in SCI)

- **Chaos edges of z-logistic maps: Connection between the relaxation and sensitivity entropic indices**

Tirmakli U., TSALLIS C.

PHYSICAL REVIEW E, vol.73, 2006 (Journal Indexed in SCI)

- **Sensitivity to initial conditions in coherent noise models**

ERGUN E., Tirnakli U.

EUROPEAN PHYSICAL JOURNAL B, vol.46, pp.377-380, 2005 (Journal Indexed in SCI)

- **Short-time dynamics of isotropic and anisotropic Bak-Sneppen model: extensive simulation results**

Tirnakli U., LYRA M.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.344, pp.712-717, 2004 (Journal Indexed in SCI)

- **Aging in coherent noise models and natural time**

Tirnakli U., ABE S.

PHYSICAL REVIEW E, vol.70, 2004 (Journal Indexed in SCI)

- **Critical dynamics of anisotropic Bak-Sneppen model**

Tirnakli U., LYRA M.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.342, pp.151-157, 2004 (Journal Indexed in SCI)

- **Two-dimensional dissipative maps at chaos threshold: sensitivity to initial conditions and relaxation dynamics**

BORGES E., Tirnakli U.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.340, pp.227-233, 2004 (Journal Indexed in SCI)

- **Mixing and relaxation dynamics of the Henon map at the edge of chaos**

BORGES E., Tirnakli U.

PHYSICA D-NONLINEAR PHENOMENA, vol.193, pp.148-152, 2004 (Journal Indexed in SCI)

- **Damage spreading in the Bak-Sneppen and ballistic deposition models: critical dynamics and nonextensivity**

LYRA M., Tirnakli U.

PHYSICA D-NONLINEAR PHENOMENA, vol.193, pp.329-337, 2004 (Journal Indexed in SCI)

- **Tsallis versus Renyi entropic form for systems with q-exponential behaviour: the case of dissipative maps**

JOHAL R., Tirnakli U.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.331, pp.487-496, 2004 (Journal Indexed in SCI)

- **Damage spreading in the Bak-Sneppen model: Sensitivity to the initial conditions and equilibration dynamics**

Tirnakli U., LYRA M.

INTERNATIONAL JOURNAL OF MODERN PHYSICS C, vol.14, pp.805-814, 2003 (Journal Indexed in SCI)

- **Two-dimensional maps at the edge of chaos: Numerical results for the Henon map**

Tirnakli U.

PHYSICAL REVIEW E, vol.66, 2002 (Journal Indexed in SCI)

- **Asymmetric unimodal maps at the edge of chaos**

Tirnakli U., TSALLIS C., LYRA M.

PHYSICAL REVIEW E, vol.65, 2002 (Journal Indexed in SCI)

- **Dissipative maps at the chaos threshold: numerical results for the single-site map**

Tirnakli U.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.305, pp.119-123, 2002 (Journal Indexed in SCI)

- **Generalization of the Kolmogorov-Sinai entropy: logistic-like and generalized cosine maps at the chaos threshold**

Tirnakli U., ANANOS G., TSALLIS C.

PHYSICS LETTERS A, vol.289, pp.51-58, 2001 (Journal Indexed in SCI)

- **Asymmetric unimodal maps: Some results from q-generalized bit cumulants**

Tirnakli U.

PHYSICAL REVIEW E, vol.62, pp.7857-7860, 2000 (Journal Indexed in SCI)

- **Convergence to the critical attractor of dissipative maps: Log-periodic oscillations, fractality, and nonextensivity**

DE MOURA F., TIRNAKLI U., LYRA M.

PHYSICAL REVIEW E, vol.62, pp.6361-6365, 2000 (Journal Indexed in SCI)

- **Exact and approximate results of non-extensive quantum statistics**

TIRNAKLI U., TORRES D.

EUROPEAN PHYSICAL JOURNAL B, vol.14, pp.691-698, 2000 (Journal Indexed in SCI)

- **A new formalism for nonextensive physical systems: Tsallis thermostatics**

TIRNAKLI U., BÜYÜKKILIÇ F., DEMIRHAN D.

Turkish Journal of Physics, vol.23, pp.21-28, 1999 (Journal Indexed in SCI Expanded)

- **Circular-like maps: sensitivity to the initial conditions, multifractality and nonextensivity**

TIRNAKLI U., TSALLIS C., LYRA M.

EUROPEAN PHYSICAL JOURNAL B, vol.11, pp.309-315, 1999 (Journal Indexed in SCI)

- **Quantal distribution functions in non-extensive statistics and an early universe test revisited**

TIRNAKLI U., TORRES D.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.268, pp.225-230, 1999 (Journal Indexed in SCI)

- **Generalized quantal distribution functions within factorization approach: some general results for bosons and fermions**

TORRES D., TIRNAKLI U.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.261, pp.499-511, 1998 (Journal Indexed in SCI)

- **Some bounds upon the nonextensivity parameter using the approximate generalized distribution functions**

TIRNAKLI U., BUYUKKILIC F., DEMIRHAN D.

PHYSICS LETTERS A, vol.245, pp.62-66, 1998 (Journal Indexed in SCI)

- **Landau diamagnetism within Tsallis thermostatics and quantum groups**

OZEREN S., TIRNAKLI U., BUYUKKILIC F., DEMIRHAN D.

EUROPEAN PHYSICAL JOURNAL B, vol.2, pp.101-106, 1998 (Journal Indexed in SCI)

- **Generalized Tsallis thermostatics of magnetic systems**

BÜYÜKKILIÇ F., TIRNAKLI U., DEMIRHAN D.

Turkish Journal of Physics, vol.21, pp.132-143, 1997 (Journal Indexed in SCI Expanded)

- **The effect of nonextensivity on the time development of quantum systems**

TIRNAKLI U., OZEREN S., BUYUKKILIC F., DEMIRHAN D.

ZEITSCHRIFT FUR PHYSIK B-CONDENSED MATTER, vol.104, pp.341-345, 1997 (Journal Indexed in SCI)

- **Generalized distribution functions and an alternative approach to generalized Planck radiation law**

TIRNAKLI U., BUYUKKILIC F., DEMIRHAN D.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.240, pp.657-664, 1997 (Journal Indexed in SCI)

- **Comparison of standard statistical thermodynamics with generalized statistical thermodynamics results for ising chain**

TIRNAKLI U., DEMIRHAN D., BUYUKKILIC F.

ACTA PHYSICA POLONICA A, vol.91, pp.1035-1042, 1997 (Journal Indexed in SCI)

- **Generalization of the mean-field Ising model within Tsallis thermostatics**

BUYUKKILIC F., DEMIRHAN D., TIRNAKLI U.

PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.238, pp.285-294, 1997 (Journal Indexed in SCI)

## Refereed Congress / Symposium Publications in Proceedings

- **Statistical characterization of area-preserving maps**

TIRNAKLI U.

International School on Complexity - Nonextensive Statistical Mechanics, Superstatistics and Beyond: Theory and Applications in Astrophysical and other Complex Systems, Palermo, Italy, 2 - 08 July 2019, pp.1

- **Recurrence Plot Analysis of California Earthquake Catalog**

ÖZKEN İ., ÇELİKOĞLU A., TIRNAKLI U.

TFD, 6 - 10 September 2017

- **Rössler Salınıcısının Kaos Geçiş Eşiği Civarında Ölçeklenme Davranışları**

ÇETİN K., AFŞAR Ö., TIRNAKLI U.

İzmir Genç Fizikçiler Kongresi (GEFİK2016), İzmir, Turkey, 12 - 14 October 2016

- **A case study of ergodicity and non ergodicity in Hamiltonian systems The Standard Map**

TIRNAKLI U.

International Workshop on Foundations of Complexity, Rio-De-Janeiro, Brazil, 19 - 23 Ekim 2015

- **Low dimensional dynamical systems in the vicinity of chaos threshold**

TIRNAKLI U.

Latin American School on Foundations of Complexity, Rio-De-Janeiro, Brazil, 4 - 30 October 2015

- **Central limit behavior in dissipative and conservative dynamical systems**

TIRNAKLI U.

CS-DC'15 World e-conference, Arizona, United States Of America, 30 September - 01 October 2015

- **Conservative low dimensional maps From Boltzmann Gibbs statistics to Tsallis statistics**

TIRNAKLI U.

International School on Complexity: New Trends in Statistical Mechanical Foundations of Complexity, Erice, Italy,

27 July - 03 August 2015

- **Gaussiyen olmayan dağılımlar için çarpıklık ve basıklık analizi**

ÇELİKOĞLU A., TIRNAKLI U.

22. İstatistiksel Fizik Günleri, İstanbul, Turkey, 25 - 27 June 2015

- **Düşük-Boyutlu Dinamik Sistemlerin Kaos Geçiş Eşiği Civarında Davranışları ve Bunların Sağlık Analizi**

ÇETİN K., AFŞAR Ö., TIRNAKLI U.

22. İstatistiksel Fizik Günleri (IFG22), İstanbul, Turkey, 25 - 27 June 2015

- **Aging in earthquake models**

Tirnakli U.

31st Workshop of the International-School-of-Solid-State-Physics, Erice, Italy, 20 - 26 July 2004, vol.26, pp.350-354

## Supported Projects

Tirnaklı U., TÜBİTAK Project, Korunumlu Düşük Boyutlu Dinamik Sistemlerin ve Deterministik Örgü Gaz Modelinin İstatistik Mekaniksel İncelemesi, 2016 - 2019

TIRNAKLI U., Project Supported by Higher Education Institutions, DOĞAL VE YAPAY ZAMAN SERİLERİNDE KARMAŞIKLIK VE ZAMAN SERİSİ ANALİZİ, 2015 - 2018

TIRNAKLI U., Project Supported by Higher Education Institutions, DÜŞÜK BOYUTLU DİNAMİK SİSTEMLERİN KAOS EŞİĞİ CİVARINDA DAVRANIŞLARI VE BUNLARIN SAĞLAMLIK ANALİZİ, 2012 - 2015

Tirnaklı U., Afşar Ö., TÜBİTAK Project, Dinamik Sistemlerde Merkezsel Limit Davranışları ve Zaman Serilerinde Karmaşıklik Analizi, 2012 - 2015

TIRNAKLI U., Project Supported by Higher Education Institutions, DİNAMİK SİSTEMLER İÇİN MERKEZSEL LİMİT TEOREMLERİ VE KARMAŞIKLIK ANALİZİ, 2009 - 2012

TIRNAKLI U., Project Supported by Higher Education Institutions, DEPREM MODELLERİNDEN ÜRETİLEN ZAMAN SERİLERİNİN İSTATİSTİK MEKANİKSEL İNCELENMESİ., 2009 - 2012

Tirnaklı U., Afşar Ö., TÜBİTAK Project, Toplanabilir olmayan entropiler kullanan yeni bir karmaşıklik ölçümü ve çok-disiplinli uygulamaları, 2008 - 2010

Tirnaklı U., TÜBİTAK Project, Yüksek Boyutlu Dinamik Sistemler: Biyolojik Evrim, Deprem ve Kendiliğinden Organize Kritiklik Gösteren Sistemlerin Modellenmesi, 2005 - 2010

TIRNAKLI U., Project Supported by Higher Education Institutions, DİNAMİK SİSTEMLERİN KAOS GEÇİŞ EŞİĞİNDEKİ DAVRANIŞI ZAYIF KAOS VE ENTROPİSEL, 2000 - 2002

TIRNAKLI U., Project Supported by Higher Education Institutions, NONEXTENSİF FİZİKSEL SİSTEMLERİN GENELLEŞTİRİLMİŞ İSTATİKSEL TERMODİNAMİKLE İNCELENMESİ VE UYGULANMASI, 1997 - 1999

## Memberships / Tasks in Scientific Organizations

Bilim Akademisi, Member, 2012 - Continues

### Scientific Refereeing

Heliyon, SCI Journal, February 2019  
Physical Review E, SCI Journal, January 2019  
Physica A, National Scientific Refreed Journal, November 2018  
Physical Review E, SCI Journal, October 2018  
New Journal of Physics, SCI Journal, June 2018  
Physica A, SCI Journal, June 2018  
Modern Physics Letters B, SCI Journal, May 2018  
Physical Review E, SCI Journal, April 2018  
Physica A, SCI Journal, March 2018  
Physica A, SCI Journal, March 2018  
Physica A, SCI Journal, February 2018  
Physical Review E, SCI Journal, February 2018  
Physica A, SCI Journal, November 2017  
Physical Review E, SCI Journal, October 2017  
Physica A, SCI Journal, July 2017  
Acta Geophysica, SCI Journal, July 2017  
Natural Hazards and Earth System Sciences, SCI Journal, July 2017  
Chaos Solitons Fractals, SCI Journal, July 2017  
Physica A, SCI Journal, May 2017  
Journal of Theoretical Biology, SCI Journal, November 2016  
Physical Review E, SCI Journal, October 2016  
Physical Review E, SCI Journal, September 2016  
Physics Letters A, SCI Journal, September 2016  
Complexity, SCI Journal, September 2016  
Physics Letters A, SCI Journal, August 2016  
Physical Review E, SCI Journal, June 2016  
Physical Review E, SCI Journal, April 2016  
European Physical Journal B, SCI Journal, April 2016  
Chaos Solitons Fractals, SCI Journal, November 2015  
EPL, SCI Journal, August 2015  
Physical Review E, SCI Journal, August 2015  
Physics Letters A, SCI Journal, June 2015  
Chaos Solitons Fractals, SCI Journal, May 2015  
Physical Review E, SCI Journal, April 2015  
Chaos, SCI Journal, April 2015  
Chaos Solitons Fractals, SCI Journal, March 2015  
Physica A, SCI Journal, January 2015  
Physical Review E, SCI Journal, December 2014  
Physics Letters A, SCI Journal, June 2014  
Physica A, SCI Journal, June 2014  
Physics Letters A, SCI Journal, May 2014  
Physical Review E, SCI Journal, March 2014  
Physica A, SCI Journal, March 2014  
Physica A, SCI Journal, March 2014  
Physica A, SCI Journal, February 2014  
Nature Scientific Reports, SCI Journal, September 2013  
Physica A, SCI Journal, May 2013



European Journal of Physics, SCI Journal, May 2013  
EPL, SCI Journal, February 2013  
Physics Letters A, SCI Journal, February 2013  
EPL, SCI Journal, November 2012  
European Journal of Physics, SCI Journal, October 2012  
European Journal of Physics, SCI Journal, October 2012  
Physics Letters A, SCI Journal, September 2012  
Physics Letters A, SCI Journal, September 2012  
Physica A, SCI Journal, September 2012  
Physica A, SCI Journal, July 2012  
Physical Review E, SCI Journal, January 2012  
Physical Review E, SCI Journal, November 2011  
EPL, SCI Journal, September 2011  
Physical Review E, SCI Journal, July 2011  
Physica A, SCI Journal, March 2011  
Physical Review E, SCI Journal, February 2011  
International Journal of Modern Physics C, SCI Journal, February 2011  
Physical Review E, SCI Journal, December 2010  
Physica A, SCI Journal, October 2010  
Physical Review E, SCI Journal, October 2010  
Physica A, SCI Journal, August 2010  
Physica A, SCI Journal, July 2010  
Physica A, SCI Journal, June 2010  
Physical Review E, SCI Journal, May 2010  
European Physical Journal B, SCI Journal, May 2010  
Physics Letters A, SCI Journal, March 2010  
Physical Review E, SCI Journal, November 2009  
Physics Letters A, SCI Journal, October 2009  
Physica A, SCI Journal, September 2009  
Physical Review E, SCI Journal, August 2009  
Physica A, SCI Journal, August 2009  
Physica A, SCI Journal, July 2009  
Physical Review E, SCI Journal, June 2009  
Physica A, SCI Journal, June 2009  
Physica A, SCI Journal, February 2009  
Brazilian Journal of Physics, SCI Journal, January 2009  
Physica A, SCI Journal, November 2008  
Physical Review E, SCI Journal, October 2008  
Physica A, SCI Journal, June 2008  
Physica A, SCI Journal, May 2008  
International Journal of Modern Physics B, SCI Journal, April 2008  
Physica A, SCI Journal, April 2008  
Physical Review E, SCI Journal, January 2008  
Physical Review B, SCI Journal, July 2007  
Physics Letters A, SCI Journal, May 2007  
Physics Letters A, SCI Journal, September 2006  
Physical Review E, SCI Journal, November 2005  
Physical Review E, SCI Journal, March 2005  
Physical Review E, SCI Journal, January 2005  
Physics Letters A, SCI Journal, January 2005  
Physical Review Letters, SCI Journal, January 2005  
Physical Review E, SCI Journal, December 2004  
Physical Review B, SCI Journal, October 2004

Physical Review Letters, SCI Journal, February 2003  
Physical Review E, SCI Journal, August 2002  
Physical Review E, SCI Journal, May 2002  
Physical Review E, SCI Journal, February 2002  
European Physical Journal B, SCI Journal, April 2001

## Invited Congress and Symposium Activities

V. Yoğun Madde Fiziği İzmir Toplantısı, Invited Speaker, İzmir, Turkey, 2016  
International Workshop on Foundations of Complexity, Invited Speaker, Rio-De-Janeiro, Brazil, 2015  
CS-DC'15 World e-conference, Invited Speaker, Arizona, United States Of America, 2015  
International School on Complexity: New Trends in Statistical Mechanical Foundations of Complexity, Invited Speaker, Naples, Italy, 2015  
Statistical Mechanics Foundation of Complexity: where do we stand now ?, Invited Speaker, New-Mexico, United States Of America, 2014  
Complex Systems: Foundations and Applications, Invited Speaker, Rio-De-Janeiro, Brazil, 2013  
International Summer School and Research Workshop on Complexity, Invited Speaker, İstanbul, Turkey, 2011  
17. İstatistiksel Fizik Günleri, Invited Speaker, İstanbul, Turkey, 2010  
XI Latin American Workshop on Nonlinear Phenomena, Invited Speaker, Rio-De-Janeiro, Brazil, 2009  
International Conference on Nonextensive Statistical Mechanics- Foundations and Applications / NEXT2008, Invited Speaker, Foz do Iguacu, Brazil, 2008  
Türk Fizik Derneği 25.Uluslararası Fizik Kongresi, Invited Speaker, Muğla, Turkey, 2008  
International Conference in Statistical Physics (SigmaPhi2008), Invited Speaker, Hania, Greece, 2008  
XXIII IUPAP International Conference on Statistical Physics (STATPHYS23), Attendee, Genoa, Italy, 2007  
“International Conference on Complexity, Metastability and Nonextensivity” Satellite to Statphy23, Invited Speaker, Catania, Italy, 2007  
School and Conference on Complex Systems and Nonextensive Statistical Mechanics, Invited Speaker, Trieste, Italy, 2006  
3. International Conference NEXT-SigmaPhi: News, Expectations and Trends in Statistical Physics, Attendee, Hania, Greece, 2005  
Workshop on Complexity and Nonextensivity: New Trends in Statistical Mechanics, Attendee, Kyoto, Japan, 2005  
VIII Latin American Workshop on Nonlinear Phenomena, Attendee, Salvador, Brazil, 2004  
31st Workshop of the International School of Solid State Physics “Complexity, Metastability and Nonextensivity, Attendee, Palermo, Italy, 2004  
Workshop on Trends and Perspectives on Extensive and Non-extensive Statistical Mechanics, Attendee, Rio-De-Janeiro, Brazil, 2003  
Second Sardinian International Conference on News and Expectations in Thermostatistics, Invited Speaker, Cagliari, Italy, 2003  
Workshop on Anomalous Distributions, Nonlinear Dynamics and Nonextensivity, Invited Speaker, New-Mexico, United States Of America, 2002  
8. İstatistiksel Fizik Günleri, Invited Speaker, İstanbul, Turkey, 2001  
International School and Conference on Nonextensive Thermodynamics and Physical Applications, Invited Speaker, Cagliari, Italy, 2001  
Nonlinear Evolution Equations and Dynamical Systems, Invited Speaker, Muğla, Turkey, 2000  
Middle European Cooperation in Statistical Physics, Attendee, Trieste, Italy, 1998  
3. General Conference of the Balkan Physical Union, Attendee, Cluj-Napoca, Romania, 1997  
Quantum Groups, Deformations and Contraction Conference, Invited Speaker, İstanbul, Turkey, 1997  
4. İstatistiksel Fizik Günleri, Invited Speaker, İstanbul, Turkey, 1997  
College on Introductory Computational Physics, Attendee, Italy, 1997

## Citations

Total Citations (WOS):1060

h-index (WOS):19

## Invited Talks

Statistical characterization of area-preserving maps, Workshop, Ettore Majorana Foundation and Centre for Scientific Culture, Italy, July 2019

From Boltzmann-Gibbs Statistics to Tsallis Statistics: A Case Study For The Standard Map, Workshop, İzmir Yüksek Teknoloji Enstitüsü, Turkey, April 2016

A case study of ergodicity and non ergodicity in Hamiltonian systems: The Standard Map, Workshop, CBPF, Brazil, October 2015

Conservative low-dimensional maps: From Boltzmann-Gibbs statistics to Tsallis statistics, Workshop, Ettore Majorana Foundation and Centre for Scientific Culture, Italy, August 2015

q-Gaussians and related scaling laws in the vicinity of chaos threshold for the logistic map, Workshop, Santa Fe Institute, United States Of America, May 2014

Central Limit Behaviour of Dynamical Systems: Emergence of q-Gaussians and Scaling Laws, Workshop, CBPF, Brazil, September 2013

Appearance of q-Gaussians in low- and high-dimensional dynamical systems, Workshop, İstanbul Teknik Üniversitesi, Turkey, September 2011

Emergence of q-Gaussians in complex systems, Workshop, Sabancı Üniversitesi, Turkey, July 2010

Analysis of self-organized criticality in complex systems, Workshop, Diğer Kurumlar, Brazil, September 2009

Central Limit Theorems for Dynamical Systems, Conference, Diğer Kurumlar, Brazil, October 2008

Düşük ve Yüksek Boyutlu Dinamik Sistemler için Genelleştirilmiş Merkezsel Limit Teoremleri, Conference, türk fizik derneği, Turkey, August 2008

Central limit behavior of one-dimensional discrete dynamical systems, Conference, Diğer Kurumlar, Greece, July 2008

A unified picture for the central limit theorems of strongly and weakly chaotic dynamical systems, Conference, Università Degli Studi di Catania, Italy, June 2007

The analysis of statistical mechanical properties of earthquakes using simple models, Conference, ICTP, Italy, August 2006

Critical dynamics of the Bak-Sneppen model of biological evolution, Conference, Diğer Kurumlar, Italy, September 2003

Low-dimensional dynamical systems at the onset of chaos, Workshop, Santa Fe Institute, United States Of America, November 2002

Nonextensive thermostatics at work: One-dimensional dissipative maps at the edge of chaos, Workshop, İstanbul Teknik Üniversitesi, Turkey, July 2001

Dissipative maps at the chaos threshold: Sensitivity to initial conditions and KS entropy, Conference, Diğer Kurumlar, Italy, May 2001

Dissipative Maps at the Onset of Chaos: Power-law Sensitivity to Initial Conditions, Conference, Diğer Kurumlar, Turkey, July 2000

Nonextensive Tsallis Thermostatistics and Its Connection with Quantum Groups, Conference, Boğaziçi Üniversitesi, Turkey, September 1997

A new Formalism for Nonextensive Physical Systems: Tsallis Thermostatistics, Workshop, İstanbul Teknik Üniversitesi, Turkey, July 1997

## Scholarships

Postdoc Araştırmacı, Official Institutions of Foreign Countries, 2017 - 2017

Junior Associate, Official Institutions of Foreign Countries, 2002 - 2005

Postdoc Araştırmacı, Official Institutions of Foreign Countries, 1999 - 2000

Doktora Sonrası Araştırma Bursu, TÜBİTAK, 1999 - 2000

Münir Bırsel Vakfı Doktora Bursu, TÜBİTAK, 1997 - 1998

## Awards

Tımaklı U., Tübitak Teşvik Ödülü, Tübitak, May 2007

Tımaklı U., Seçkin Genç Bilimci Ödülü, Türkiye Bilimler Akademisi, May 2002