

## Prof. SADİ TURGUT

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: A-6589-2010

ScopusID: 7004835080

Yoksis Researcher ID: 46196

### Education Information

Doctorate, University of California, Berkeley, Graduate School, Physics, United States Of America 1989 - 1995

Undergraduate, Middle East Technical University, Fen Edebiyat, Fizik, Turkey 1985 - 1989

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Impurity effects in charge-density-wave systems, University Of California, Berkeley, Graduate School, Physics, 1995

### Research Areas

Physics, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Electronic transport in condensed matter, Natural Sciences

### Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2014 - Continues

Associate Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2011 - 2014

Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2004 - 2011

Lecturer, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 1996 - 2004

### Academic and Administrative Experience

Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2012 - 2016

## Advising Theses

- TURGUT S., Demonstration of quantum contextuality via Hardy Paradox, Postgraduate, Y.YOLSEVER(Student), 2022
- TURGUT S., Quantum information approach to correlations in many-body systems, Doctorate, Ç.AKSAK(Student), 2022
- TURGUT S., Security of quantum key recycling, Postgraduate, K.AKYÜZ(Student), 2022
- TURGUT S., Quantum search in sets with prior knowledge, Postgraduate, U.ÇALIKYILMAZ(Student), 2021
- TURGUT S., Nonlinearities in quantum correlations of two time-like separated measurements, Postgraduate, H.GHARIB(Student), 2021
- TURGUT S., Thermal rectification behaviour of some small quantum systems, Postgraduate, S.ATILAY(Student), 2021
- TURGUT S., Discrimination of quantum states under local operations and classical communication, Postgraduate, Ö.GÜNGÖR(Student), 2015
- TURGUT S., Bell-like inequalities in quantum information theory, Postgraduate, Z.CAN(Student), 2015
- TURGUT S., Weight discrimination of boolean functions with quantum computation, Doctorate, K.UYANIK(Student), 2014
- TURGUT S., Transformations of entangled mixed states of two qubits, Postgraduate, Ü.ALKUŞ(Student), 2013
- TURGUT S., Landauer erasure for quantum systems, Postgraduate, Ç.AKSAK(Student), 2009
- TURGUT S., Entanglement transformations, Postgraduate, S.KINTAŞ(Student), 2009
- TURGUT S., Quantum decoherence and quantum state diffusion formalism, Postgraduate, C.KADRİ(Student), 2007
- TURGUT S., Ratchet effect in mesoscopic systems, Postgraduate, U.YİĞİT(Student), 2005
- TURGUT S., A continuum model for decoherence in 1D transport, Postgraduate, S.ŞENOZAN(Student), 2005
- TURGUT S., Thermoelectric effects in mesoscopic physics, Doctorate, M.ALİ(Student), 2004
- TURGUT S., Thermoelectric effects in mesoscopic physics, Doctorate, M.Ali(Student), 2004

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Witnessing pairing correlations in identical-particle systems**  
Aksak C., TURGUT S.  
Quantum Information and Computation, vol.21, no.15-16, pp.1307-1319, 2021 (SCI-Expanded)
- II. **Entanglement-assisted state discrimination and entanglement preservation**  
Gungor O., TURGUT S.  
PHYSICAL REVIEW A, vol.94, no.3, 2016 (SCI-Expanded)
- III. **An elementary derivation of the quantum virial theorem from Hellmann-Feynman theorem**  
İPEKOĞLU Y., TURGUT S.  
EUROPEAN JOURNAL OF PHYSICS, vol.37, no.4, 2016 (SCI-Expanded)
- IV. **Spin-orbit effects on the nonlinear optical properties of a quantum dot in simultaneous electric and magnetic fields**  
AYTEKİN Ö., TURGUT S., TOMAK M.  
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.64, pp.29-32, 2014 (SCI-Expanded)
- V. **Nonlinear optical properties of a Woods-Saxon quantum dot under an electric field**  
AYTEKİN Ö., TURGUT S., Unal V. U., Aksahin E., TOMAK M.  
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.54, pp.257-261, 2013 (SCI-Expanded)
- VI. **A new sure-success generalization of Grover iteration and its application to weight decision problem of Boolean functions**  
Uyanik K., TURGUT S.  
QUANTUM INFORMATION PROCESSING, vol.12, no.11, pp.3395-3409, 2013 (SCI-Expanded)
- VII. **Nonlinear optical properties of a Poschl-Teller quantum well under electric and magnetic fields**  
AYTEKİN Ö., TURGUT S., Tomak M.  
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.44, pp.1612-1616, 2012 (SCI-Expanded)
- VIII. **Gauge covariance and spin-current conservation in the gauge-field formulation of systems with spin-orbit coupling**  
SHIKAKHWA M., TURGUT S., PAK N. K.

- JOURNAL OF PHYSICS A-MATHEMATICAL AND THEORETICAL, vol.45, no.10, 2012 (SCI-Expanded)
- IX. **Environmental effects on the geometric phase**  
GÜNHAN A. C., TURGUT S., PAK N. K.  
EUROPEAN PHYSICAL JOURNAL D, vol.64, no.1, pp.155-162, 2011 (SCI-Expanded)
- X. **A continuum model for dephasing in mesoscopic systems**  
Şenozan S., TURGUT S., Tomak M.  
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.43, no.10, pp.1845-1852, 2011 (SCI-Expanded)
- XI. **Heat transfer operators associated with quantum operations**  
AKSAK Ç., TURGUT S.  
JOURNAL OF PHYSICS A-MATHEMATICAL AND THEORETICAL, vol.44, no.27, 2011 (SCI-Expanded)
- XII. **Derivation of the magnetization current from the non relativistic Pauli equation A comment on The quantum mechanical current of the Pauli equation by Marek Nowakowski Am J Phys 67 10 916 1999**  
SHIKAKHWA M., TURGUT S., PAK N. K.  
American Journal Of Physics, vol.79, pp.1177, 2011 (SCI-Expanded)
- XIII. **Transformations of W-type entangled states**  
Kintas S., Turgut S.  
JOURNAL OF MATHEMATICAL PHYSICS, vol.51, no.9, 2010 (SCI-Expanded)
- XIV. **Geometric measures of entanglement**  
UYANIK K., TURGUT S.  
PHYSICAL REVIEW A, vol.81, no.3, 2010 (SCI-Expanded)
- XV. **Deterministic transformations of multipartite entangled states with tensor rank 2**  
TURGUT S., GÜL Y., PAK N. K.  
PHYSICAL REVIEW A, vol.81, no.1, 2010 (SCI-Expanded)
- XVI. **Relations between entropies produced in nondeterministic thermodynamic processes**  
TURGUT S.  
PHYSICAL REVIEW E, vol.79, no.4, 2009 (SCI-Expanded)
- XVII. **FIGURE OF MERIT OF ONE DIMENSIONAL RESONANT TRANSMISSION SYSTEMS IN THE QUANTUM REGIME**  
ÇİPİLOĞLU M. A., TURGUT S.  
Mathematical Applications, vol.14, pp.13-19, 2009 (SCI-Expanded)
- XVIII. **Catalytic transformations for bipartite pure states**  
TURGUT S.  
JOURNAL OF PHYSICS A-MATHEMATICAL AND THEORETICAL, vol.40, no.40, pp.12185-12212, 2007 (SCI-Expanded)
- XIX. **Nonlinear Seebeck and Peltier effects in quantum point contacts**  
Çipiloğlu M. A., TURGUT S., Tomak M.  
PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS, vol.241, no.11, pp.2575-2585, 2004 (SCI-Expanded)
- XX. **Half plateaus in the linear thermal conductance of quantum point contacts**  
ÇİPİLOĞLU M. A., TURGUT S.  
JOURNAL OF PHYSICS-CONDENSED MATTER, vol.16, no.21, pp.3671-3679, 2004 (SCI-Expanded)
- XXI. **PHENOMENOLOGICAL GINZBURG-LANDAU THEORY OF CHARGE-DENSITY-WAVE SPECTRA**  
TURGUT S., Falicov L. M.  
PHYSICAL REVIEW B, vol.50, no.12, pp.8221-8229, 1994 (SCI-Expanded)
- XXII. **Theory of impurity induced lattice distortions in the normal phase of charge density wave systems**  
TURGUT S., Falicov L. M.  
PHYSICAL REVIEW B, vol.49, pp.14043-14046, 1994 (SCI-Expanded)

Publication: 22

Citation (WoS): 330

Citation (Scopus): 335

H-Index (WoS): 9

H-Index (Scopus): 9

## **Non Academic Experience**

METU

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