

# Prof. BÜLENT YILMAZ

## Personal Information

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## International Researcher IDs

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## Education Information

Doctorate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Physics (Dr), Turkey  
2003 - 2007

Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Physics (Masters),  
Turkey 2000 - 2003

Undergraduate, Ankara University, Fen Fakültesi, Fizik Bölümü, Turkey 1995 - 2000

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Stochastic approach to fusion dynamics, Middle East Technical University, Graduate School Of Natural And  
Applied Sciences, Physics (PhD), 2007

Postgraduate, Chargino and neutralino decays in mSUGRA model, Middle East Technical University, Graduate School Of  
Natural And Applied Sciences, Physics (Masters), 2003

## Research Areas

Physics, Nuclear physics, General Nuclear Reactions, Special nuclear reactions, Natural Sciences

## Academic Titles / Tasks

Professor, Ankara University, Fen Fakültesi, Fizik Bölümü, 2022 - Continues

Associate Professor, Ankara University, Fen Fakültesi, Fizik Bölümü, 2015 - 2022

Assistant Professor, Ankara University, Fen Fakültesi, Fizik Bölümü, 2013 - 2015

Research Assistant, Ankara University, Fen Fakültesi, Fizik Bölümü, 2002 - 2013

## Academic and Administrative Experience

Ankara University, 2015 - 2018

## Advising Theses

- YILMAZ B., Atom çekirdeklerin dev rezonansların zamana bağlı Hartree-Fock yaklaşımıyla incelenmesi, Postgraduate, U.ÇÖRTENLİOĞLU(Student), 2021
- YILMAZ B., ANALYSIS OF GIANT RESONANCES IN ATOMIC NUCLEI BY TIME DEPENDENT HARTREE-FOCK APPROACH, Postgraduate, U.Çörtentlioğlu(Student), 2021
- YILMAZ B., Analysis of quantum many-body systems with stochastic beyond mean-field approaches, Doctorate, İ.ÜLGEN(Student), 2020
- YILMAZ B., Stokastik ortalama alan yaklaşımının lpkın-meshkov-glick modeliyle incelenmesi, Postgraduate, R.CÜREBAL(Student), 2014
- YILMAZ B., Süper-ağır çekirdeklerin fisyon zamanının analizi, Postgraduate, Ş.AÇELYA(Student), 2014

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

- I. **Phase-space methods for neutrino oscillations: Extension to multibeams**  
Lacroix D., Bauge A., YILMAZ B., Mangin-Brinet M., Roggero A., Balantekin A. B.  
Physical Review D, vol.110, no.10, 2024 (SCI-Expanded)
- II. **Multinucleon transfer mechanism in Cf 250 + Th 232 collisions using the quantal transport description based on the stochastic mean-field approach**  
Ayik S., ARIK M., YILMAZ O., YILMAZ B., Umar A.  
Physical Review C, vol.107, no.1, 2023 (SCI-Expanded)
- III. **Quantal diffusion description of isotope production via the multinucleon transfer mechanism in Ca 48 + U 238 collisions**  
Ayik S., ARIK M., Karanfil E. C., YILMAZ O., YILMAZ B., Umar A.  
Physical Review C, vol.104, no.5, 2021 (SCI-Expanded)
- IV. **Merging of transport theory with the time-dependent Hartree-Fock approach: Multinucleon transfer in U+ U collisions**  
Ayik S., Yilmaz B., Yilmaz O., Umar A. S.  
Physical Review C, vol.102, no.2, 2020 (SCI-Expanded)
- V. **Combining phase-space and time-dependent reduced density matrix approach to describe the dynamics of interacting fermions**  
Czuba T., Lacroix D., Regnier D., Ulgen I., YILMAZ B.  
EUROPEAN PHYSICAL JOURNAL A, vol.56, no.4, 2020 (SCI-Expanded)
- VI. **Quasi-fission and fusion-fission reactions in 48Ca + 208Pb collisions at Ec.m.=190MeV**  
Yilmaz O., Turan G., Yilmaz B.  
European Physical Journal A, vol.56, no.2, 2020 (SCI-Expanded)
- VII. **Impact of initial fluctuations on the dissipative dynamics of interacting Fermi systems: A model case study**  
Ulgen I., YILMAZ B., Lacroix D.  
PHYSICAL REVIEW C, vol.100, no.5, 2019 (SCI-Expanded)
- VIII. **Heavy-isotope production in Xe-136 + Pb-208 collisions at E-c.m. =514 MeV**  
Ayik S., YILMAZ O., YILMAZ B., Umar A. S.  
PHYSICAL REVIEW C, vol.100, no.4, 2019 (SCI-Expanded)
- IX. **Quantal diffusion approach for multinucleon transfers in Xe plus Pb collisions**  
Ayik S., YILMAZ B., YILMAZ O., Umar A. S.  
PHYSICAL REVIEW C, vol.100, no.1, 2019 (SCI-Expanded)
- X. **Low recurrence rate of hepatocellular carcinoma following ledipasvir and sofosbuvir treatment in a real-world chronic hepatitis C patients cohort**  
İDİLMAN R., DEMİR M., ALADAĞ M., Erol C., Cavus B., Iliaz R., Koklu H., Cakaloglu Y., Sahin M., ERSÖZ G., et al.  
JOURNAL OF VIRAL HEPATITIS, vol.26, no.6, pp.666-674, 2019 (SCI-Expanded)

- XI. **Multinucleon transfer in Ni-58+Ni-60 and Ni-60+Ni-60 in a stochastic mean-field approach**  
YILMAZ B., Ayik S., YILMAZ O., Umar A. S.  
PHYSICAL REVIEW C, vol.98, no.3, 2018 (SCI-Expanded)
- XII. **Quantal diffusion description of multinucleon transfers in heavy-ion collisions**  
Ayik S., YILMAZ B., YILMAZ O., Umar A. S.  
PHYSICAL REVIEW C, vol.97, no.5, 2018 (SCI-Expanded)
- XIII. **Multinucleon transfer in central collisions of U-238+U-238**  
Ayik S., YILMAZ B., YILMAZ O., Umar A. S., Turan G.  
PHYSICAL REVIEW C, vol.96, no.2, 2017 (SCI-Expanded)
- XIV. **Quantal nucleon diffusion: Central collisions of symmetric nuclei**  
Ayik S., YILMAZ O., YILMAZ B., Umar A. S.  
PHYSICAL REVIEW C, vol.94, no.4, 2016 (SCI-Expanded)
- XV. **A simplified BBGKY hierarchy for correlated fermions from a stochastic mean-field approach**  
Lacroix D., Tanimura Y., Ayik S., YILMAZ B.  
EUROPEAN PHYSICAL JOURNAL A, vol.52, no.4, 2016 (SCI-Expanded)
- XVI. **Multinucleon exchange in quasifission reactions**  
Ayik S., Yilmaz B., Yilmaz O.  
Physical Review C - Nuclear Physics, vol.92, no.6, 2015 (SCI-Expanded)
- XVII. **Quantal description of nucleon exchange in a stochastic mean-field approach**  
Ayik S., YILMAZ O., YILMAZ B., Umar A. S., Gokalp A., Turan G., Lacroix D.  
PHYSICAL REVIEW C, vol.91, no.5, 2015 (SCI-Expanded)
- XVIII. **Importance of realistic phase-space representations of initial quantum fluctuations using the stochastic mean-field approach for fermions**  
YILMAZ B., Lacroix D., Curebal R.  
PHYSICAL REVIEW C, vol.90, no.5, 2014 (SCI-Expanded)
- XIX. **Nucleon exchange in heavy-ion collisions within a stochastic mean-field approach**  
YILMAZ B., Ayik S., Lacroix D., YILMAZ O.  
PHYSICAL REVIEW C, vol.90, no.2, 2014 (SCI-Expanded)
- XX. **Spectroscopy of the neutron-deficient N=50 nucleus Rh-95**  
Moradi F. G., Cederwall B., Qi C., Back T., Atac A., Liotta R., Doncel M., Johnson A., de France G., Clement E., et al.  
PHYSICAL REVIEW C, vol.89, no.4, 2014 (SCI-Expanded)
- XXI. **Character of particle-hole excitations in Ru-94 deduced from gamma-ray angular correlation and linear polarization measurements**  
Moradi F. G., Qi C., Cederwall B., Atac A., Baeck T., Liotta R., Doncel M., Johnson A., de France G., Clement E., et al.  
PHYSICAL REVIEW C, vol.89, no.1, 2014 (SCI-Expanded)
- XXII. **Symmetry breaking and fluctuations within stochastic mean-field dynamics: Importance of initial quantum fluctuations**  
Lacroix D., Ayik S., YILMAZ B.  
PHYSICAL REVIEW C, vol.85, no.4, 2012 (SCI-Expanded)
- XXIII. **Nucleon exchange mechanism in heavy-ion collisions at near-barrier energies**  
YILMAZ B., Ayik S., Lacroix D., Washiyama K.  
PHYSICAL REVIEW C, vol.83, no.6, 2011 (SCI-Expanded)
- XXIV. **Stochastic semi-classical description of fusion at near-barrier energies**  
Ayik S., YILMAZ B., Lacroix D.  
PHYSICAL REVIEW C, vol.81, no.3, 2010 (SCI-Expanded)
- XXV. **Non-Markovian diffusion over a parabolic potential barrier: Influence of the friction-memory function**  
YILMAZ B., Ayik S., Abe Y., Boilley D.  
PHYSICAL REVIEW E, vol.77, no.1, 2008 (SCI-Expanded)
- XXVI. **Dynamics of massive systems and synthesis of superheavy elements**  
Abe Y., Marchix A., Shen C., YILMAZ B., Kosenko G., Boilley D., Giraud B. G.

INTERNATIONAL JOURNAL OF MODERN PHYSICS E, vol.16, no.2, pp.491-501, 2007 (SCI-Expanded)

**XXVII. Method for numerical simulation of two-term exponentially correlated colored noise**

YILMAZ B., Ayik S., Abe Y., Gokalp A., YILMAZ O.

PHYSICAL REVIEW E, vol.73, no.4, 2006 (SCI-Expanded)

**XXVIII. Quantum statistical effects on fusion dynamics of heavy ions**

Ayik S., YILMAZ B., Gokalp A., YILMAZ O., Takigawa N.

PHYSICAL REVIEW C, vol.71, no.5, 2005 (SCI-Expanded)

## **Refereed Congress / Symposium Publications in Proceedings**

**I. Recent progress in the microscopic description of small and large amplitude collective motion**

Lacroix D., Ayik S., Scamps G., Simenel C., Tanimura Y., YILMAZ B.

3rd International Conference on Nuclear Structure and Dynamics, Portoroz, Slovenia, 14 - 19 June 2015, vol.1681

**II. Large amplitude motion with a stochastic mean-field approach**

Lacroix D., Ayik S., YILMAZ B., Washiyama K.

6th International Conference on Nuclear Structure and Related Topics (NSRT), Dubna, Russia, 3 - 07 July 2012, vol.38

**III. Beyond mean-field approach to heavy-ion reactions around the Coulomb barrier**

Washiyama K., Lacroix D., Ayik S., YILMAZ B.

5th International Conference on FUSION11, St Malo, France, 2 - 06 May 2011, vol.17

**IV. Stochastic semi-classical description of sub-barrier fusion reactions**

YILMAZ B., Ayik S., Lacroix D.

5th International Conference on FUSION11, St Malo, France, 2 - 06 May 2011, vol.17

**V. On the predictions of the models for the Super-Heavy Elements**

Boilley D., Abe Y., Shen C., YILMAZ B.

2009 12th International Conference on Nuclear Reaction Mechanisms, NRM 2009, Ravenna, Italy, 15 - 19 June 2009, vol.2, pp.479-486

**VI. Quantum effects in the diffusion process to form a heavy nucleus in heavy-ion fusion reactions**

Washiyama K., YILMAZ B., Ayik S., Takigawa N.

International Conference on Reaction Mechanisms and Nuclear Structure, Venice, Italy, 19 - 23 March 2006, vol.853, pp.187-188

## **Metrics**

Publication: 34

Citation (WoS): 314

Citation (Scopus): 368

H-Index (WoS): 11

H-Index (Scopus): 12

## **Non Academic Experience**

Granada Üniversitesi Fizik Bölümü

GANIL Nükleer Fizik Araştırma Merkezi

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GANIL Nükleer Fizik Araştırma Merkezi

RCNP Nükleer Fizik Araştırma Merkezi

GANIL Nükleer Fizik Araştırma Merkezi